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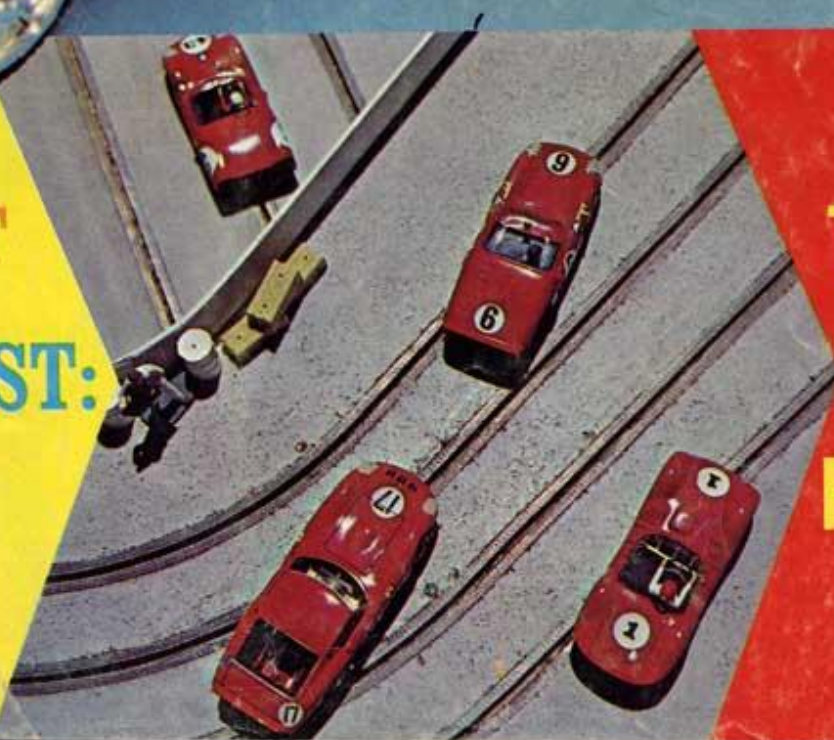
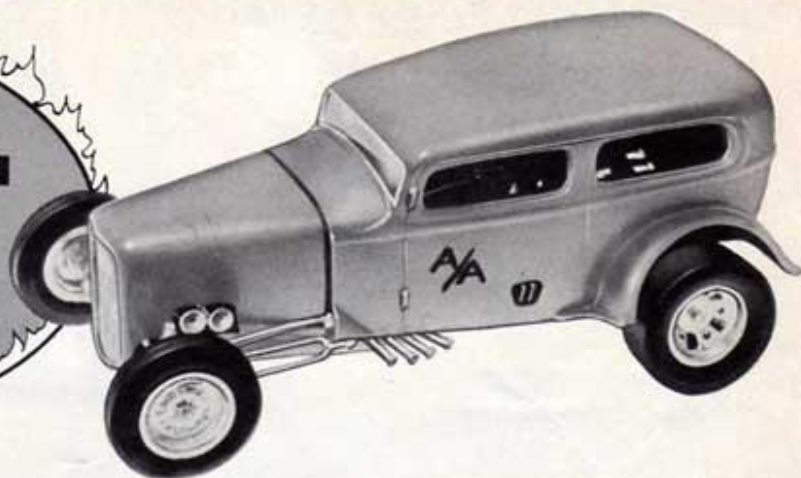
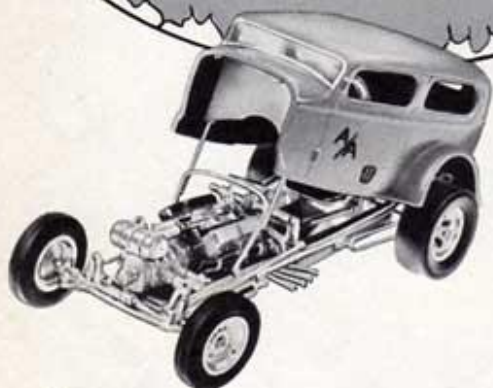


TABLE
TOP
RACING

2 **HOT** TROPHY WINNERS FROM Revell

Bob Tindle's '32 FORD SEDAN "ORANGE CRATE"



It's the most fantastically detailed car from Revell yet!

If you've got a model show coming up soon, this is the one you'll want to build. Bob Tindle's "Orange Crate" has turned over 130 on the drag strip and also won top custom show honors, including the seven-foot-tall Sweepstakes trophy at the Oakland Roadster Show.

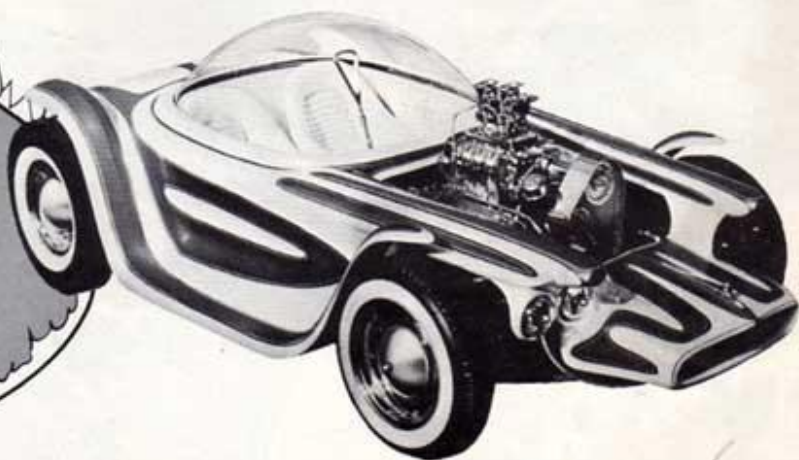
Revell has modelled "Orange Crate" with abso-

lute authenticity right down to the last nut and bolt. And this kit has super extras.

Under the removable hood is a "blown" Olds engine. The entire one-piece body shell is hinged to lift over the chassis and suspension for display. Lots of speed goodies, too, plus mag wheels, chrome tubular chassis. But that's not all. The real extras are the opening doors, complete engine wiring and scale fuel lines.

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Ed "Big Daddy" Roth's "BEATNIK BANDIT"



It's the latest of those too-much "Rothtomized" show machines

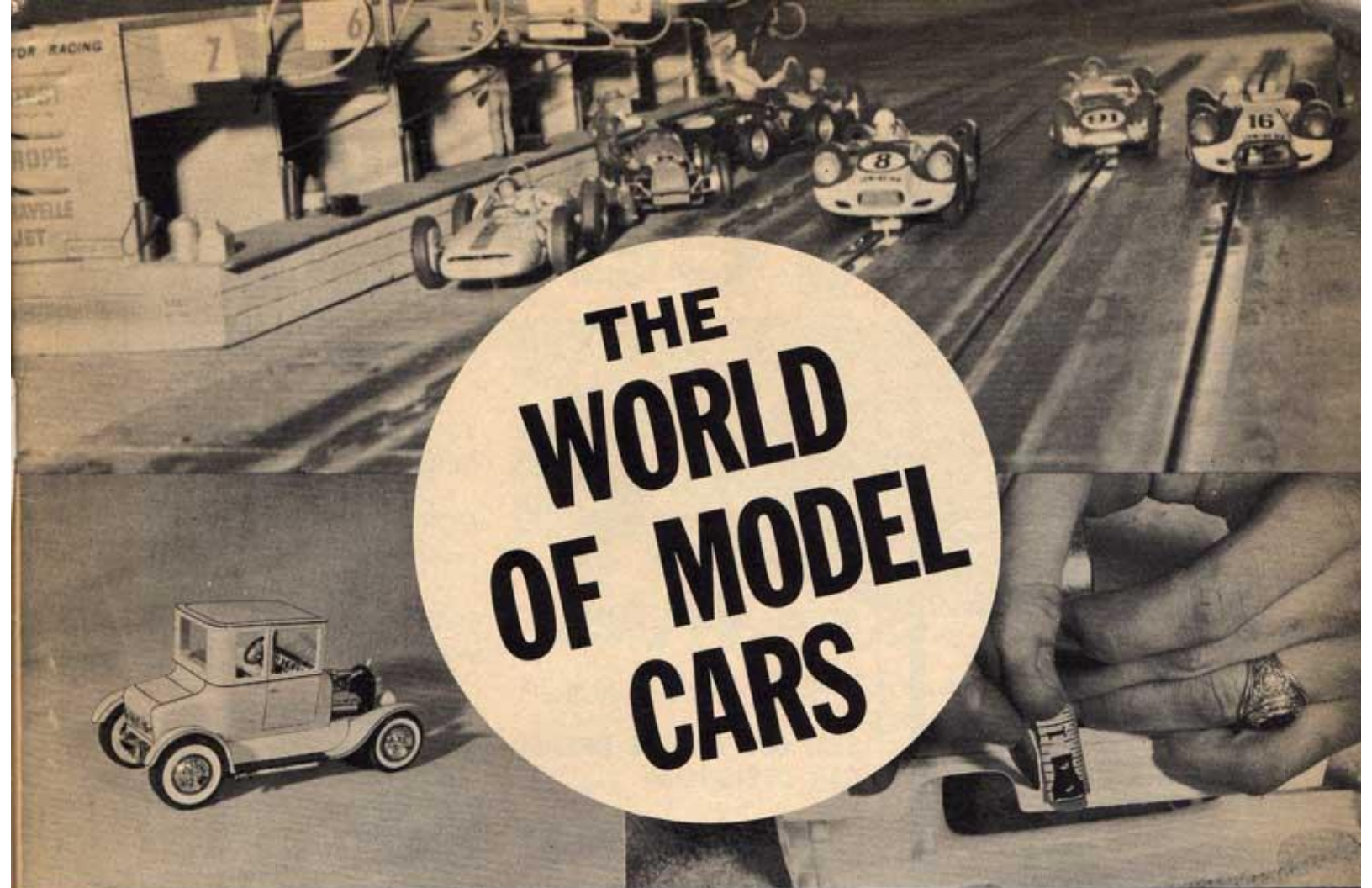
"Beatnik Bandit" is the world's sleekest expresso bean hauler. "Big Daddy" tells us that you can build this kit as a custom-show car or as a sports-racing special. All the extras are right in the kit for you to go either way with the body, mill, interior and suspension.

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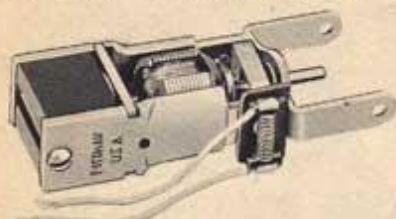
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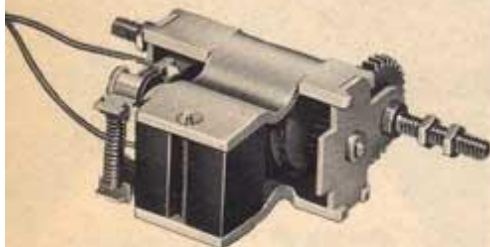
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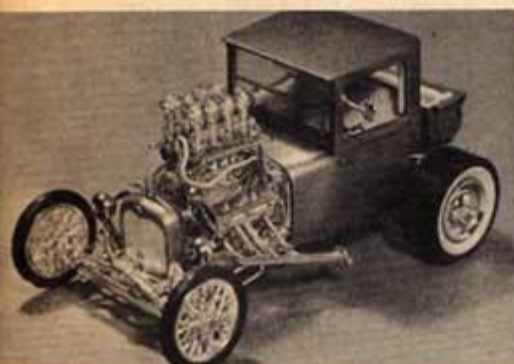
CLUB OF THE MONTH
page 58

COVER — In a continuing effort to provide original ideas, M.C.S. has gone all out this month on how-to-do-it information. The X-100 show & go rod is the M.C.S. answer to a Space Age Roth creation. Designed by Bob Paeth, this great model can easily be scratch built by following the step-by-step instructions on page 26. The slot racers in action are but a preview of the action-packed Table Top Section in this issue.

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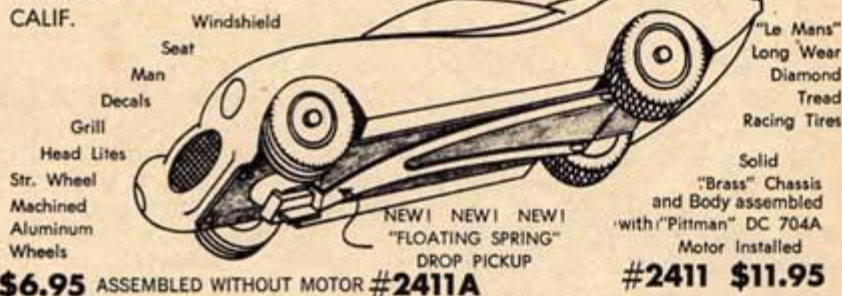
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Custom Tips

by Bob Hoeppner

EVERY MONTH many letters arrive here asking questions such as: What front and rear treatment would look good on my sectioned '63 Ford? What mill would look good? What color should I paint the wild custom I am now making and what color and type of interior should I use? Should I use this or that or would such and such look better?

All the questions of this type remind me of some of the custom cars as well as many of the models that appear in shows and contests. Just a bunch of unrelated ideas hung on a chassis and held together with bailing wire and lead, or glue and masking tape. Cars of this type show little overall planning with regard to what the finished article will look like.

One of my pet peeves is to see untold hours of work expended on a custom model only to find that from the basic concept many things are wrong with it that would prevent using it as a guide to building a full size car. After all that is what we are doing in miniature, using three dimensional form. These are supposed to be ideas and concepts that we would like to see or own in their full size counterpart. Close examination of many models will show that many builders totally ignore the basic requirements of good automobile design. There must be adequate interior room to house the people that are supposed to ride in it, in some degree of comfort as well as contain the mechanical components required to propel it. If it is to move as a car should, a minimum of ground clearance is mandatory, as well as leading and trailing ramp angles that will allow your dream to at least navigate a driveway.

All this should and can be assembled into a package that is practical, in good taste and pleasing to the eye. It can still contain all of the original ideas that you may wish to incorporate into your car.

It is a shame that more effort is not expended in the planning stage developing a continuity of line and proportion that will result in a pleasing, well integrated overall result. This would eliminate somewhat the present trend to the bizarre and ridiculous, in an effort to be original. This is true of those involved in building some actual cars as well as our model counterparts.

In an attempt to change, for the better, an original version of any car, you are faced with the same challenge industrial designers in Detroit have to contend with. Either the change is entirely new and original or a duplication of some existing design or form is adapted to the original. Duplication or copy has been widely used, the sports car type of grille

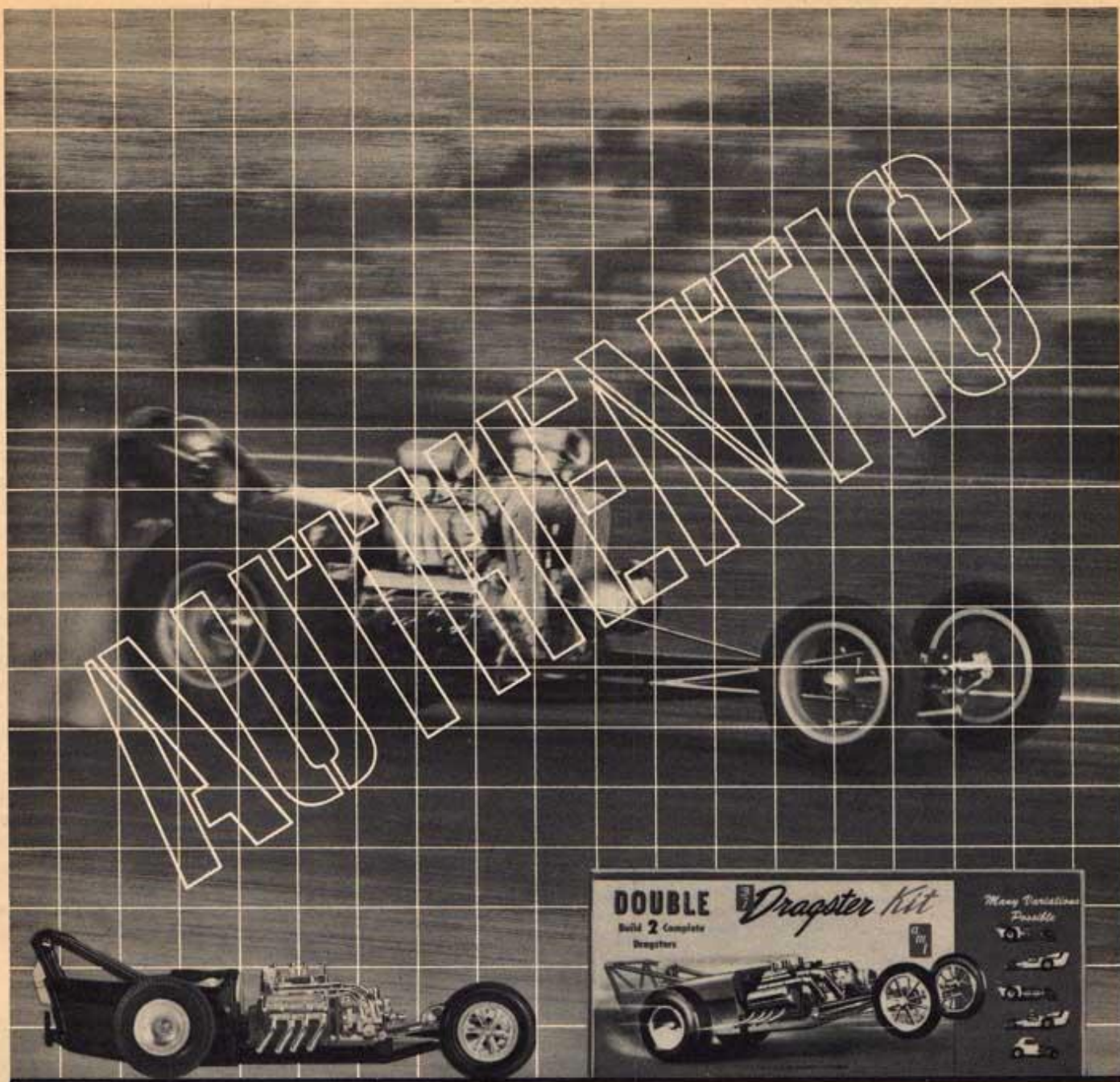
openings adapted to some high performance cars is an example. Original ideas can result in good as well as bad design. They can also produce a freakish car design that may be original but unappealing to the eye. There is still room for a world of originality in automotive design and countless improvements can be made on current cars. Without a doubt, the majority of these have, as yet, not been thought of. The object is to develop a different design that will remain in good taste and will have a high degree of practicality.

The goal to achieve is a good, clean, simple design. The result of evolutionary rather than revolutionary ideas. Use care that it does not become too "busy," the result of an excess of meaningless decoration or a conflict of lines that break up the overall design. A good design will incorporate a good blending of overall proportions. One component out of proportion will spoil the entire design. As an example a sedan with an excessive sectioning job and the top left stock would result in the window area appearing much too large to look proper. If all parts of your car are properly proportioned they will blend together.

To accomplish this, generally a number of rough sketches are made to develop the overall theme and, as your design takes shape, a final drawing should be made. Sometimes it is easier to work out some details or contours using oil base clay, it works much faster than plastic and putty, to finalize a shape before actual work is started.

Perhaps you have a friend who is a member of the Fisher Craftsman Guild. This is a wonderful organization and their contests are something all of you should be shooting for in the future. The rewards are well worth the effort. The big variation between the Fisher and the other contests is a group of restrictions touched upon early in this article. These qualifications assure that if a full size prototype were to be built following the model concept, that it would be practical. These limitations in no way restrict you in designing a car. Look at all the special show cars produced by GM in the past and the present group being shown by the Ford Motor Company. Mustang, Cougar and the Allegro, all original and pleasing yet practical.

By this time you should have answered most of the questions yourself that prompted this column. You will know what directions to take to accomplish the result you want and isn't it much better to have worked out the answers yourself?



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The doors open and other operating features include hood and unusually large bubble top that are held open by means of friction fit.

Among custom features are engine parts, an alternate front suspension system for building a dropped front-end or "California rake," custom head and tail lights, three different plated grilles, custom roll pans for front and rear and hood scoop extensions.

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Much has been written about slot racing in the last few years. Some prefer HO scale, 1/32nd, 1/24th or 1/25th. Preferences also run the gamut as to what type or style of vehicle to use, sport cars, Formula I, stock cars, Indianapolis cars and so forth. It seems as though not everyone is going to be pleased, no matter what scale of vehicle is specified for the particular track at hand. For example, some people do not want to run oval tracks, but rather road courses, and visa versa. It seems to me that somewhere, sometime and somehow a standard will have to be set to include every form of event, course and cars used, to encourage more beginners and further the enjoyment for those avid enthusiasts now racing.

It is quite natural for some to say that Budd Anderson is all for 1/25th scale stock car racing and 'to heck with any other.' This is not true; hear me out before you tie me to the nearest tow bar. Granted, most of my racing has been in 1/25th scale on the AMT Turnpike. But, in traveling all over the country I have driven on more different layouts and scales than you can imagine.

With this in mind, and being an avid builder and racer, I have been trying to come up with a plan that would appeal to all and further the great hobby of building and racing model cars.

I realize that those who have considerable cash tied up in a particular scale will balk at the thought of a scale change. However, to be able to take full advantage of vehicles, motors, tires, and accessories that are on the market, plus those that are in the works, it seems that a set scale is a must if everyone is to take an active part in all phases of racing.

It is obvious that the majority of model cars, stock, sporty or all out racing jobs, — be they American or foreign, — are in 1/25th scale. Result: better selection to choose from. Let's take a look at all the different types of racing where the size and power of most motors dictate, to a point, what model or type of car may be built.

In 1/32nd scale, nothing much smaller than a stock or Indianapolis car may be built and stay to accurate scale. If you think I'm kidding, check them out. And, while you're at it, check for detail. I'm not knocking any manufacturer; but if we are going to go racing, let's go racing with all detail. By detailing, I mean the engine under the hood, wired up so it looks like a real car. Of course, in the case where the electric motor is under the hood, you play it by ear. But there are many ways of making a car

look just like the real thing, both on the interior and exterior.

For those who like the sport car races, try and build Roger Penske's Zerex Special or say a Lotus 23 or for that matter, about 50 to 75% of a lot of good going sport cars. Like, you just can't do it in 1/32nd scale. Don't forget those great Formula I machines, also the Lola and the Brabham. I could go on and on. If you are a real racing bug, you are hep on these cars.

On a recent visit to Indianapolis, I had the pleasure to race on many different tracks. They are all in 1/32nd scale. The group follows United States Auto Club rules, and they run their events just like the real cars. Just about all of this and last year's Indy cars were present. They looked good, but most not in scale. One dirt sprinter was actually larger in length, width and height than the Indy cars in the same race.

When I asked them about the midgets and sprint cars, they all wanted to race these cars. But they couldn't build them small enough because of the size of motors available.

It really boils down to a logical answer, 1/25th scale. In 1/25th scale every type of event can be run, and every type of racing car can be built. Everyone can choose their particular type of racing and race on all layouts.

It would then be possible to race late model stockers, Indianapolis cars, the Championship trail, sprint and midgets, Formula I, G.T., and every conceivable type of sport car the particular builder would like to race. In other words, everyone could build and race on any layout in the country. This would open the door to all types of "Mail-in" events.

As it stands today, many tracks around the country can race 1/25th scale without any problems, and the others could be rebuilt to include 1/25th.

When you really stop and take a long look at model racing, I'm sure you will agree it would make it a lot more appealing to a lot more people if a good working scale were adopted.

I'm not alone when I say I would be racing all types of cars if there were a set scale. I'm quite sure there are those racing 1/32nd scale sports cars that would like to race Indianapolis and Formula I machinery; but how many different tracks can a guy build?

One common comment is, "the 1/25th scale is too large." But when you are completely honest with yourself, most make 1/32nd track just as large and it takes up no more room than a good 1/25th.

BUDD ANDERSON
Troy, Michigan

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The most exciting and talked-about car of recent years. Now in a magnificent half-inch scale model with loads of customizing extras. Scaled from the real car with big engine, center console, bucket seats, detailed interior and white wall tires.

Operating Doors, Hood, Bubble Top

Doors, hood and bubble top open and close. Kit has 161 plastic parts in 3 colors and gleaming chrome, including extra grille, extra top and other parts for custom variety as pictured. At your favorite store now.

Monogram Models, Inc., Morton Grove, Ill.

Kit PC89

\$1.98

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Actual Size



CUSTOM TIPS FROM THE WORKSHOP

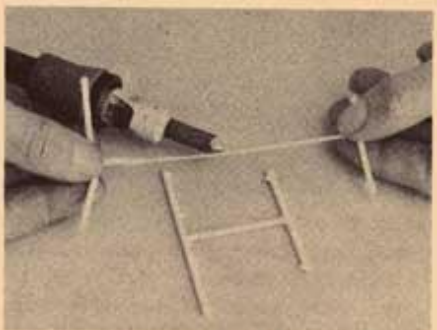
Your Auto Cutter or Ungar iron is a tool of many uses. Some not so well known to the average model builder. The moderate controlled heat they produce is just the thing for many small jobs.



1 — Small parts can be welded together by holding a part on each side of the blade. When they become soft, slide them off of the edge of the blade and push together, a small mushroom will form that can be filed off later.



2 — Roll bars, exhaust pipes and frame tubes can be custom fit by using the iron. Even small diameter chrome pipes can be reformed without destroying the plating, if care is used to gently heat the area to be reshaped. Rotate and move the part at all times while heating to prevent a hot spot. Just take your time, do not rush it.



3 — Small diameter rod stock for body moldings, antennas, grilles, tie rods, radius rods and many other things can be made the easy way by gently heating a section of the "tree" stock in any kit until it is very soft, gently turn and move back and forth until the heated area begins to shrink and the rod diameter becomes larger. Then pull the two ends apart gently until a rod of the required diameter is obtained.



NEW X-ACTO MICRO SAW

Use it as a sabre saw & use it as a jeweler's saw

Perfect for sectioning, opening doors, trunks and hoods, the versatile X-acto Micro Saw cuts through plastic with ease, leaves a satin-smooth edge. Only one inch long, one-quarter inch wide, the blade fits your

X-acto #1 handle, makes cutting turns, delicate parts extra-easy. Available complete with handle, #1M, only 60¢. Refill blades, package of 5, 60¢. Get yours today at better craft and hobby stores everywhere, or write:



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\$117,000 awaits Dream Car Designers



SCHOLARSHIPS AND CASH FOR FISHER BODY CONTEST WINNERS

by Stephen D. Urette

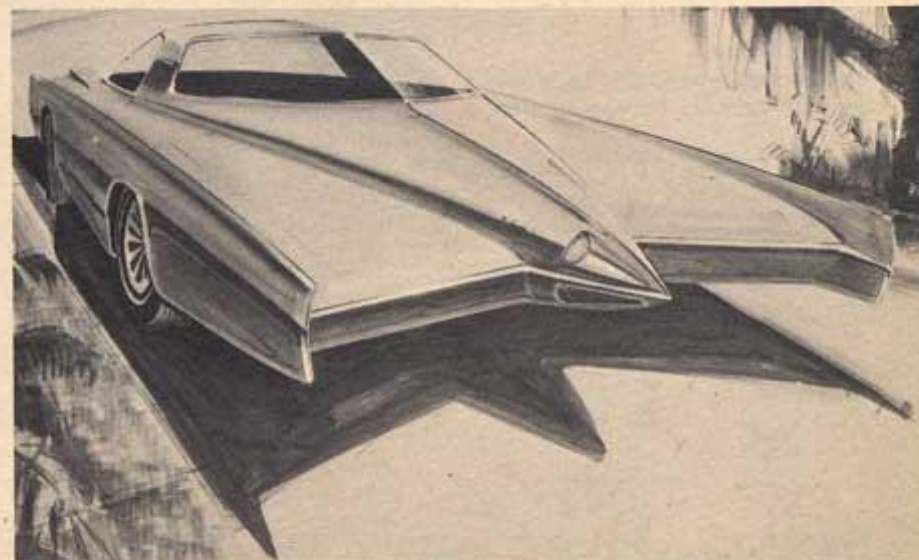
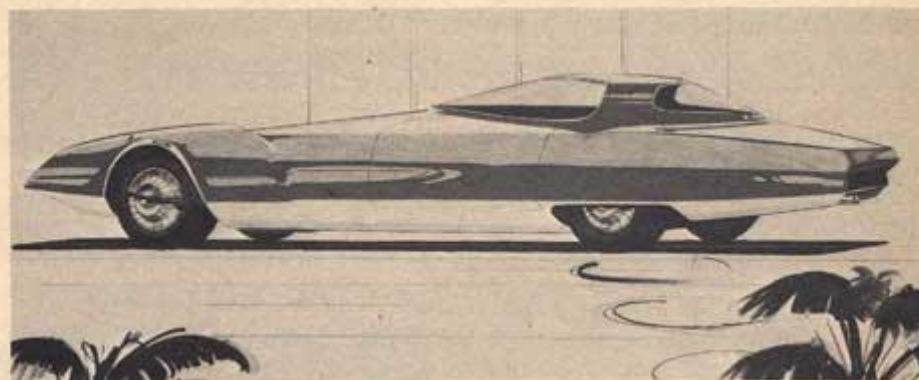
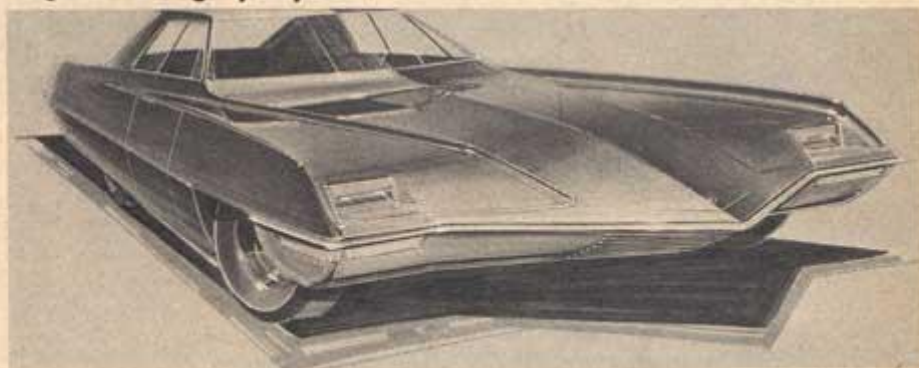
AN ALL-TIME RECORD number of youths from throughout the country have chosen to re-new their memberships in the 1963-64 Fisher Body Craftsman's Guild model car competition. Almost 100,000 repeat members from last year's 627,000 enrollment have elected to participate again in this miniature automobile competition in which \$38,000 in university scholarships and another \$79,000 in cash and other awards are being offered.

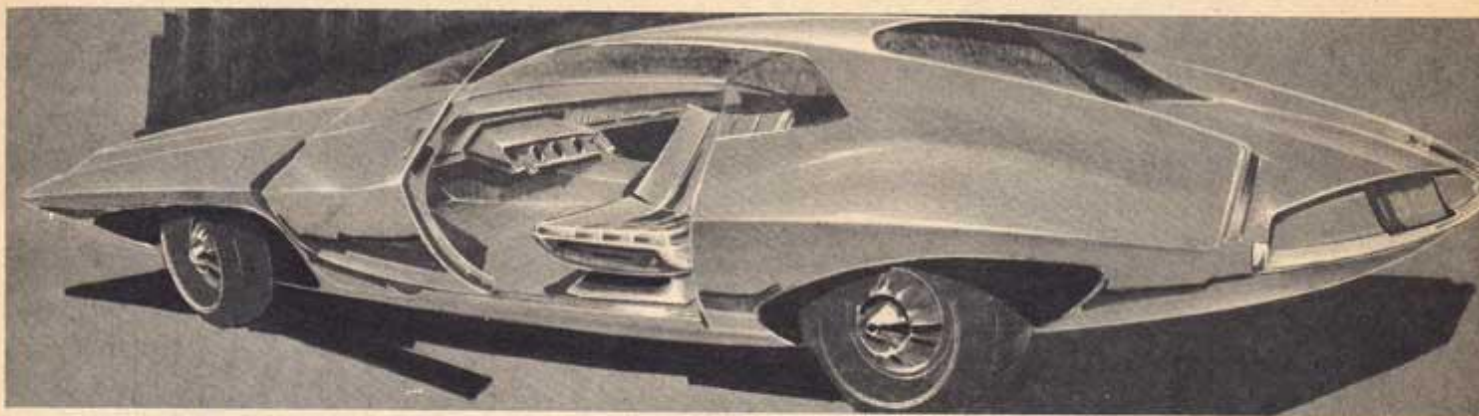
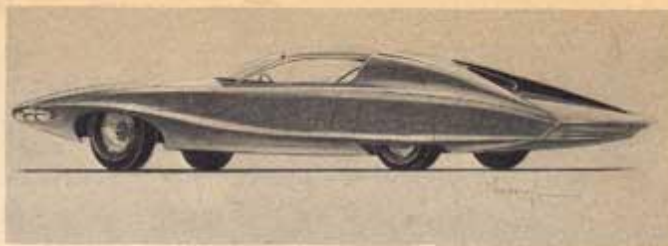
Two reasons are given for this large increase in re-enrollments. First, the wide latitude in design offered by the Guild

in the "Open" phase of the competition introduced just last year. Design conscious modelers now have the opportunity to design and build any wheeled passenger vehicle for the land transportation of two to six people.

Second, and new this year, is the announcement by the Boy Scouts of America that they have added a model building merit badge to their series of over a hundred merit badge subjects. The Scout may now earn his merit badge by designing and building a model transportation vehicle for use on either land, water, air or space. If the Scout, how-

Regular Category Styles





ever, should elect a land transportation vehicle, he may construct his model in accordance with Craftsman's Guild rules. In this way, he will not only earn his merit badge, but he may enter his model and become eligible for the awards and scholarships offered by the Guild.

In addition, any Scout who has already built a model car for the Guild competition can submit the model to his local counsellor to qualify for a model building merit badge.

The large number of continuing memberships plus an expected record number of new enrollments from over 1000 public and parochial school visitations this fall should result in an outstanding year for the Craftsman's Guild.

A booklet on model car design and construction is given to each boy enrolling in the competition. Prepared by professional designers and engineers, it is the only instructional book of its kind for young men wishing to learn about car design.

Secret to Success

Contestants design and build a model car following the rules and specifications

set forth in this booklet and the accompanying dimension or sketch sheet. The car should be an original design and built to one-twelfth actual scale. Rules and guidelines are clearly spelled out in this booklet and by referring to it often during the construction of your model, you save those valuable points that might have been overlooked.

Build Any Type of Passenger Car

The Guild competition allows you complete freedom to design and build a model of the vehicle that appeals to you most. You are not limited by the conventional automobiles of today, so think ahead to the world of tomorrow and design a car that you feel should be in use at that time. The judges regard *originality of design* as one of the most

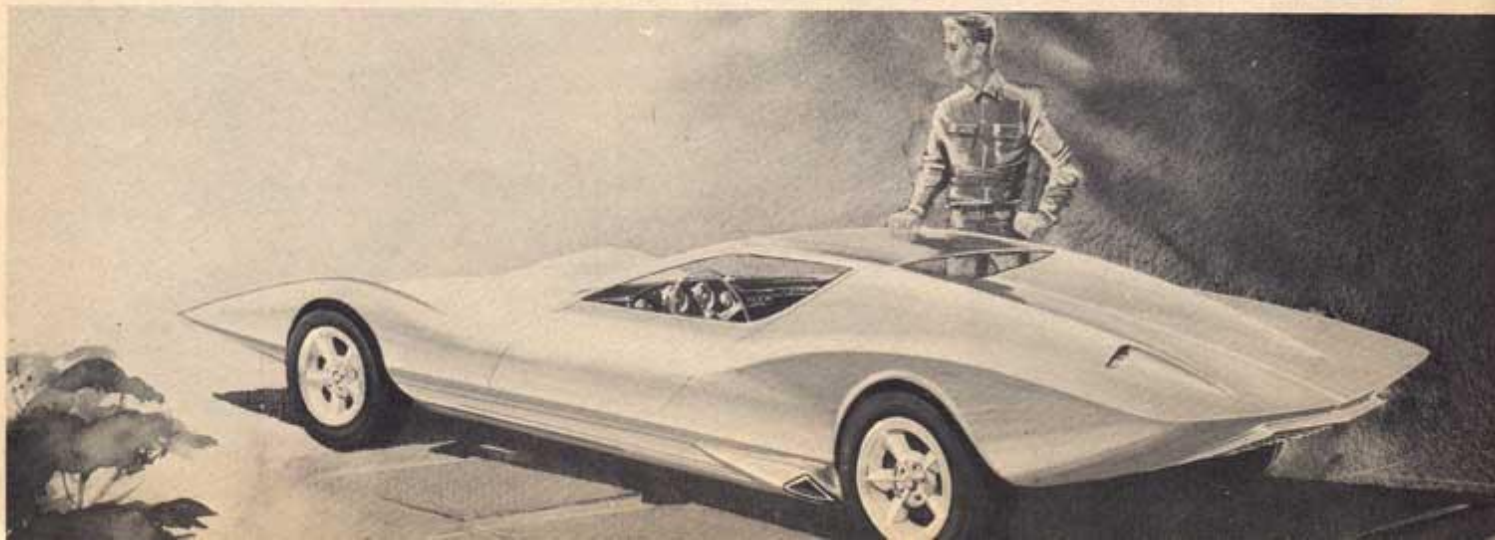
important sections of the judging system, so avoid making copies of existing automobiles. There for judging in this contest: Regular, Sports car and small Car, and Open. Samples of each of these are shown on the following pages.

Young men born in the years 1943 through 1952 are eligible to enroll and compete. Enrollment may be obtained by sending the coupon on page 25 to the Fisher Body Craftsman's Guild, Warren, Michigan.

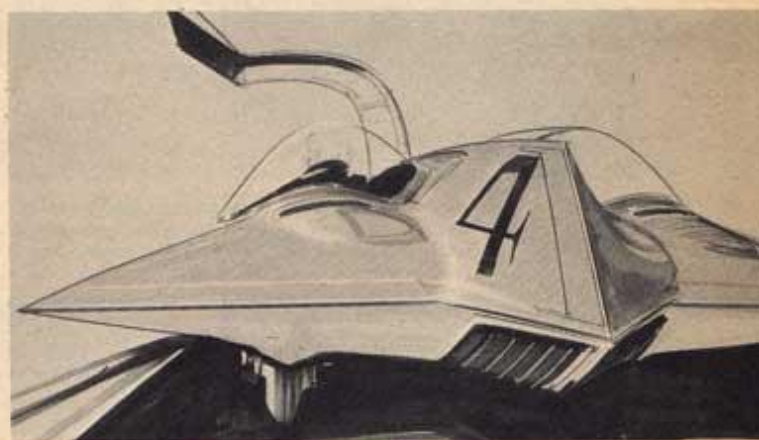
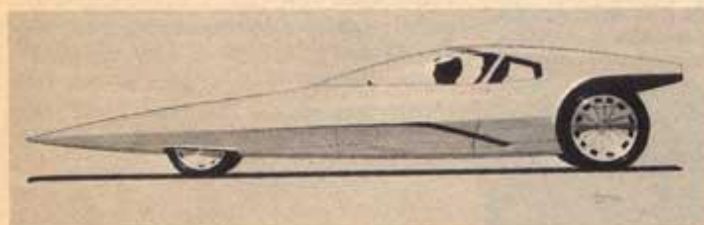
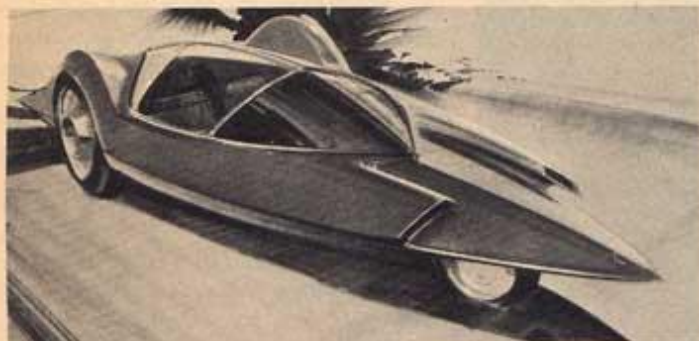
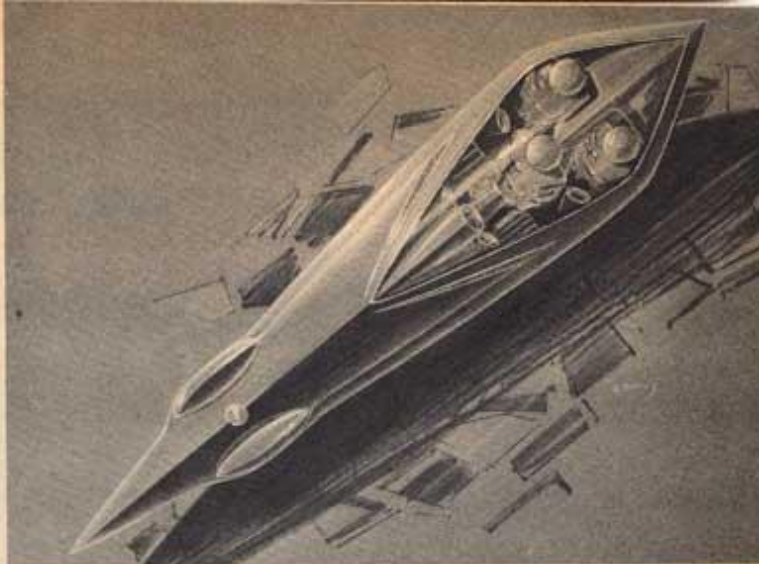
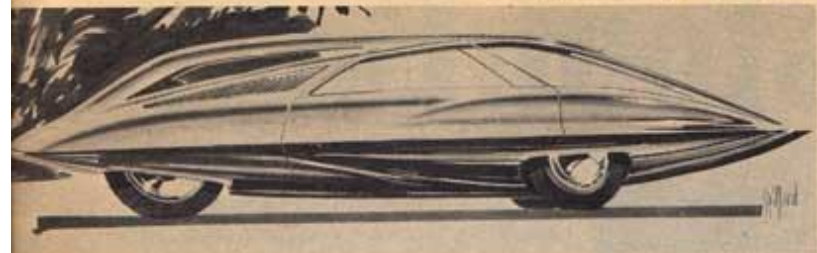
Sons of General Motors employees are eligible to enter the competition. Duplicate awards are made whenever a GM son or employe wins.

The 1963-64 competition will end June 5, 1964.

Sports and Small Car Styles



Open Category Styles



Enter the 1964 Fisher Body Craftsman's Guild car designing and building competition. It's challenging! It's rewarding! And Boy Scouts can earn a merit badge!

1,078 AWARDS TOTALING \$117,000

2 — \$5,000 scholarships 2 — \$4,000 scholarships 2 — \$3,000 scholarships 2 — \$2,000 scholarships
10 — \$1,000 scholarships

Plus 1,060 regional and state awards valued at \$79,000.

Just mail the coupon below and you may be on your way to a college education. Designing and building your own model car is exciting as well as rewarding. There's a new "open" classification that really lets your imagination soar! Get the details in this year's free booklet with complete car-building instructions. You'll also get regular editions of the Craftsman's Guild newspaper that's jam-packed with tips on how to build a winner. It's also free — when you enter.

And remember: You compete only against boys in your own age group. Don't wait! Fill out the coupon and mail it today.



BOY SCOUTS: Your model car, constructed in accordance with Craftsman's Guild rules, earns you the new Model Building Merit Badge.

This competition approved by the Committee on National Contests and Activities of the National Association of Secondary School Principals.

THIS COUPON MAY BE WORTH A COLLEGE EDUCATION—SEND IT TODAY!

Fisher Body Craftsman's Guild, Dept. B-1, Warren, Michigan

Please enroll me in your 1964 Model Car Competition. Send me the free instruction booklet, "Designing and Building a Model Car."

NAME _____
(PRINT) FIRST NAME MIDDLE INITIAL LAST NAME

ADDRESS _____
(PRINT)

CITY _____ STATE _____
(PRINT)

IMPORTANT: Only boys born in the following years are eligible. Check the year you were born below.

SENIOR DIVISION	JUNIOR DIVISION
1943 <input type="checkbox"/>	1948 <input type="checkbox"/>
1944 <input type="checkbox"/>	1949 <input type="checkbox"/>
1945 <input type="checkbox"/>	1950 <input type="checkbox"/>
1946 <input type="checkbox"/>	1951 <input type="checkbox"/>
1947 <input type="checkbox"/>	1952 <input type="checkbox"/>

model car *Science* MAGAZINE

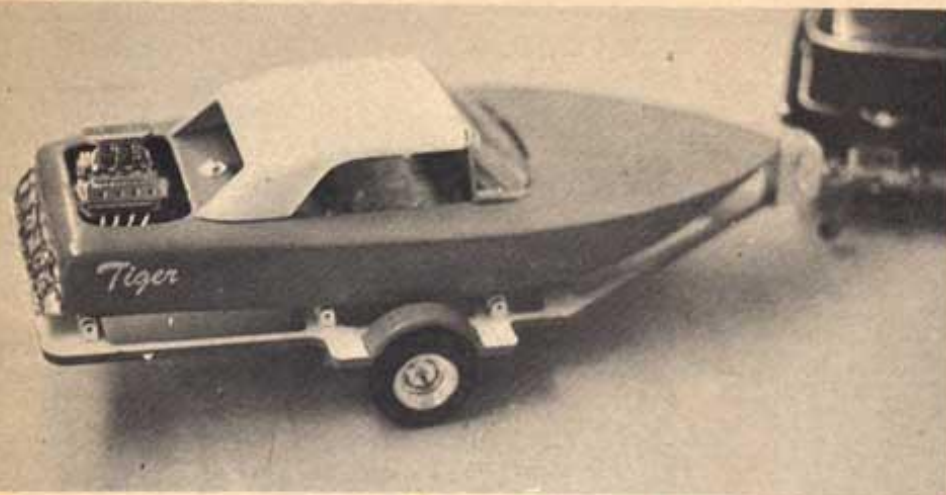
Custom Boat:

NOT TOO MANY YEARS AGO cars looked like cars and boats looked like boats. But then cars were made to look like airplanes and boats to look like cars. Twenty years ago the most popular "fast boat" was a row-boat with maybe as much as a 10hp motor clamped to the stern. Not so today! Sleek and powerful inboards with Chrysler V-8s are seen regularly at custom car shows, in rivers and in lakes.

The boat featured here started out as a kit by Revell. Now ski and drag boats are nice but they don't have the finer appointments and luxury that the proper boat can offer.

This is what has been tried to accomplish.

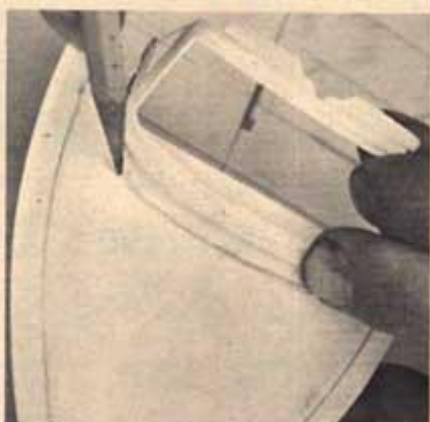
By taking the interior and windshield from AMT's '63 Chevy kit (convertible) plus the top, a new type of boat has been created, the "Comfort Plus." Now the comforts of a sedan, the sportiness



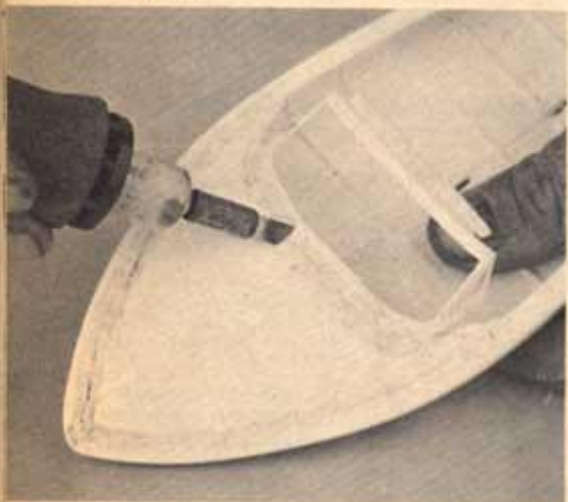
The boat was painted pink with Testors paint, contrasted with the white top. The gas cap seen in the rear window is from AMT's 1963 Corvette. The air cleaner is also AMT's. The upholstery was done in a flocking material.



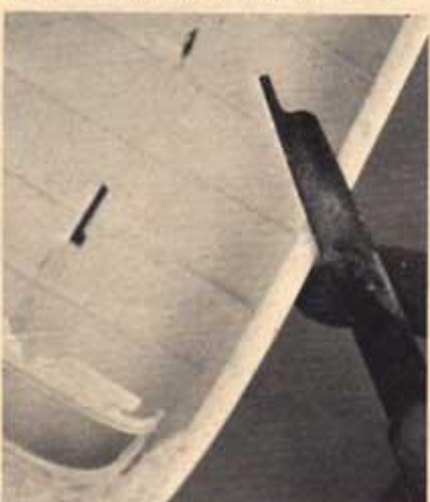
Using an Auto World cutter, carefully cut windshield frame from the convertible — AMT's 1963 Chevy was used here.



After cementing the boat's deck in place, position the windshield frame and mark its shape with a pencil. Then cut out this area with your cutter.



With the "Chisel Tip," melt the windshield frame in place. To make sure frame is even, compare it to the boat's ribs.



Easiest way to remove ridge around edge of the boat is with a file. This ridge must be removed to make the deck wider.



Since the boat is not as deep as the convertible, seats must be sectioned. Just a little more than the thickness of the floorboard is enough.

"Comfort Plus"

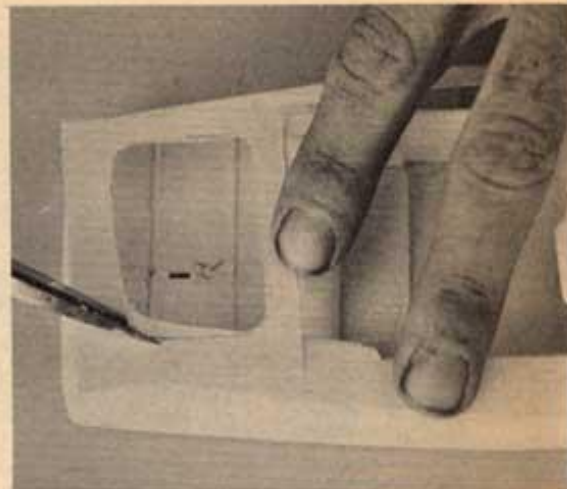
of a convertible and the thrill of being on the water is ours, all in one neat package.

To be sure of enough power, the engine used is the one in the kit, the big Chrysler. But the headers that are in the kit are the type that come straight out of the top of the boat, and are not the right kind. The headers in AMT's custom Chrysler engine fit perfectly. The two exhaust ports in the transom were taken from carburetors in the kit and work just fine.

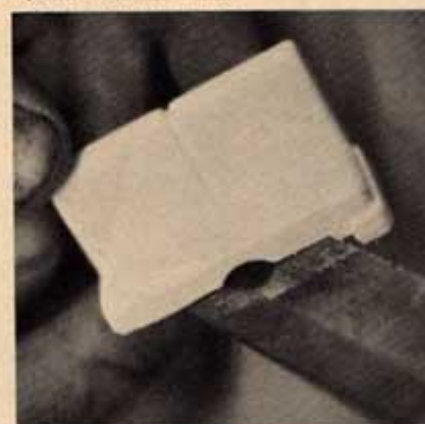
The only mechanical change needed in this conversion of the boat is to move the engine toward the rear. This gives more room for the interior. The wood deck (furnished in kit) was left off and the corresponding low spot filled. After the paint was dry the side panels and seats were upholstered with Funny Fur. The name decal was taken from Monograms "Big T" kit.



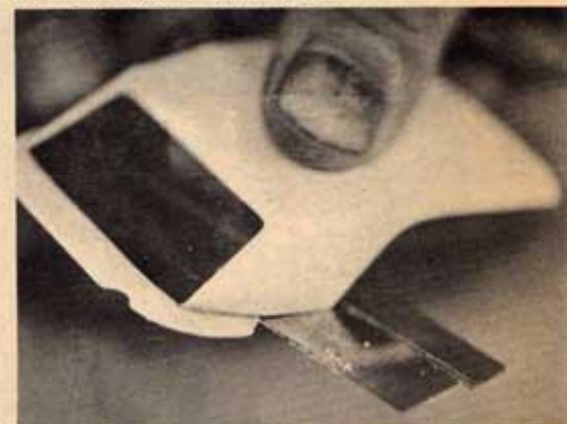
Because the boat is wider than the Chevy, new side decking is needed to fill the gap present. It is best to use styrene plastic here



After the two side pieces are in place, cut your rear deck. The hole should be big enough to insert your engine, so check before cementing to the boat.



A bench type front seat was desired so the one from Revell's '57 Chevy was used. As with the interior, the seat must be sectioned.



The only change necessary for the top is the cutting off of the portion shown. By using the razor saw a sharp cut is assured.



As this shows, the engine used is the same one as in the boat kit. The headers, however, are from AMT's double engine kit's Chrysler.



The exhaust parts in the transom are taken from the stock carburetors in the kit. The name is a decal from Monogram's "Big T" kit.

A thin piece of styrene plastic or cardboard can be used for the new floorboard. Before cementing the interior in place, be sure you leave room for the clear plastic windshield.

McMODEL THE MASTER BUILDER

HEY, McMODEL, HAVE YOU HEARD THE BIG NEWS ABOUT THE FISHER' AUTOMOBILE DESIGN CONTEST?



SURE I HEARD ABOUT IT... AN' I'M GONNA MAKE A CLEAN-SWEEP IN THE OPEN DIVISION... I'M AIMING FOR THE FIVE THOUSAND BUCK PRIZE!



YOU GUYS BETTER GIVE UP! MY DESIGN CONCEPT IS SO WAY-OUT, IT'S GOTTA WIN!

CAN WE SEE IT?

YEAH, GIVE US A LOOK!



NOPE, NOT EVEN A PEEK. THIS'S TOP SECRET!

RAT FINK!

DIRTY GUY!



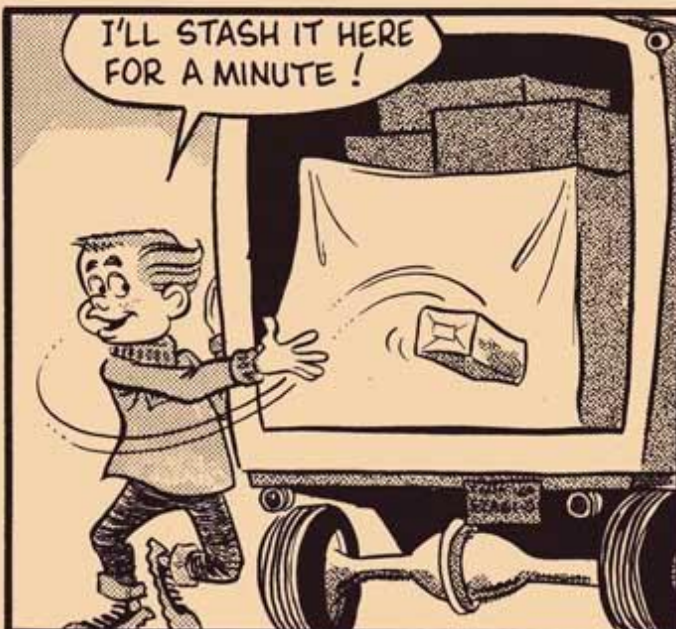
WE'LL GRAB HIM AND GET A LOOK AT HIS DESIGN!

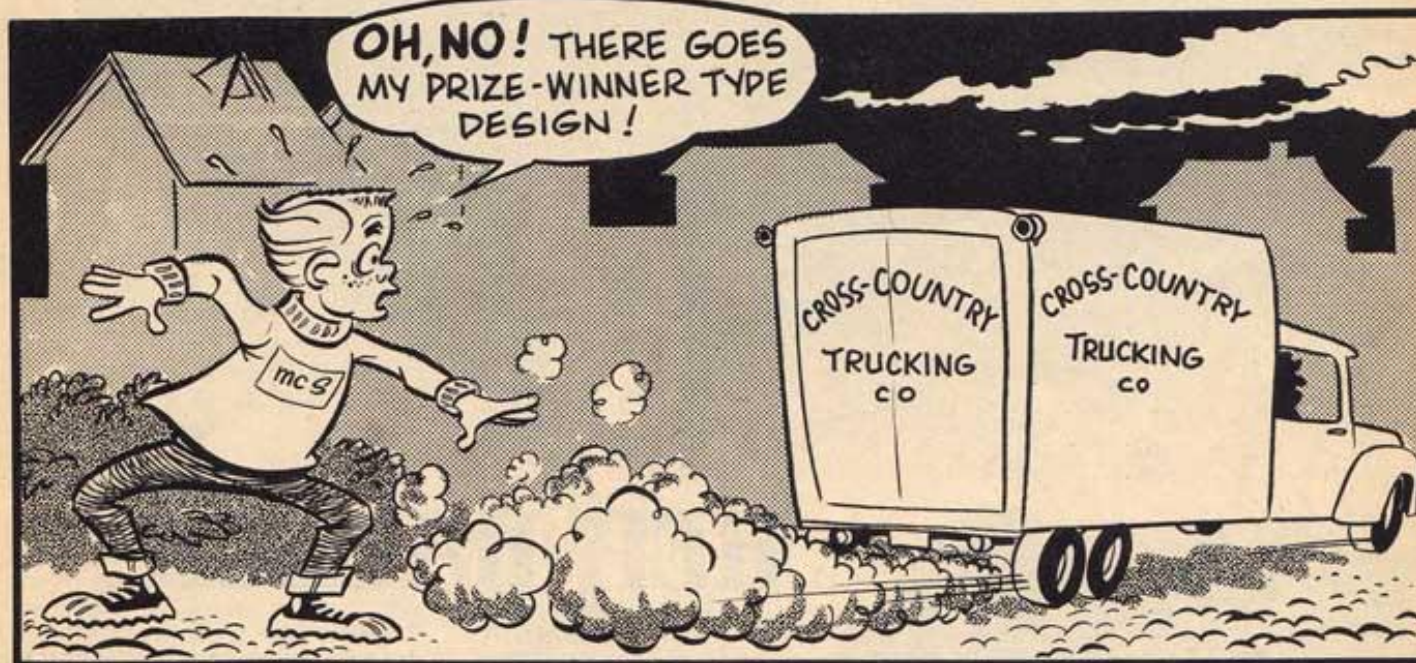
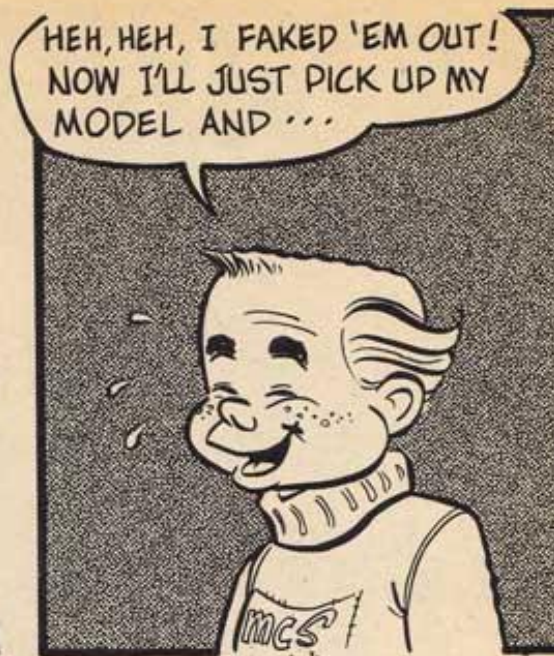
YEAH, HERE HE COMES NOW!

OH, OH!



I'LL STASH IT HERE FOR A MINUTE!





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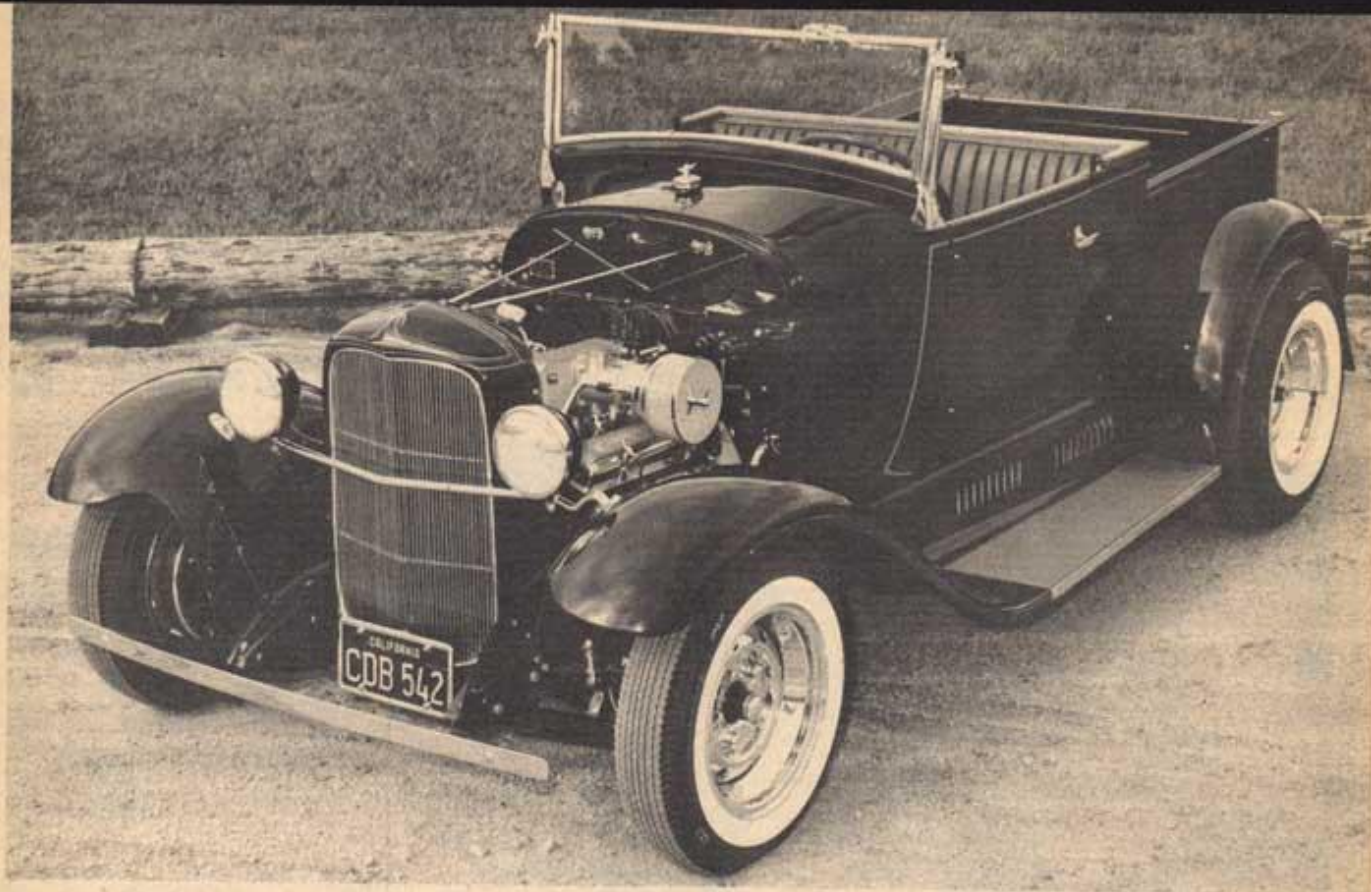
THE RAMCHARGERS
HUNT LAND, TENN.

CAR CRAFTERS
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JACKSONVILLE, ILL.



GREAT CUSTOMS ... AND HOW TO



HEP HAULER

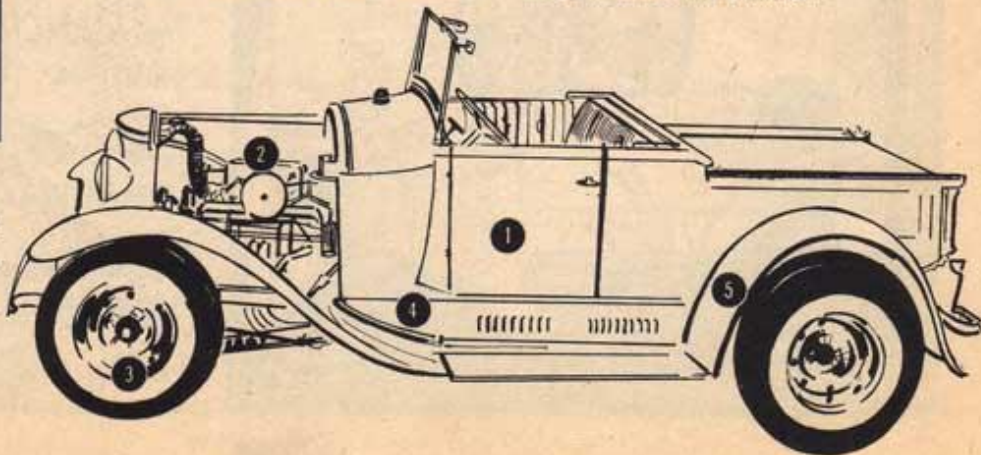
Here's a clean West Coast pick up requiring a minimum of scratch building, as most components are readily available in various kits. Finish it in jet black like the original and you will have a sharp addition to your collection.

Start with the '29 body & chassis in the AMT Ala Kart kit. Position the body a scale 4" aft, as on original (.160") to allow lots of room around the Chev mill.

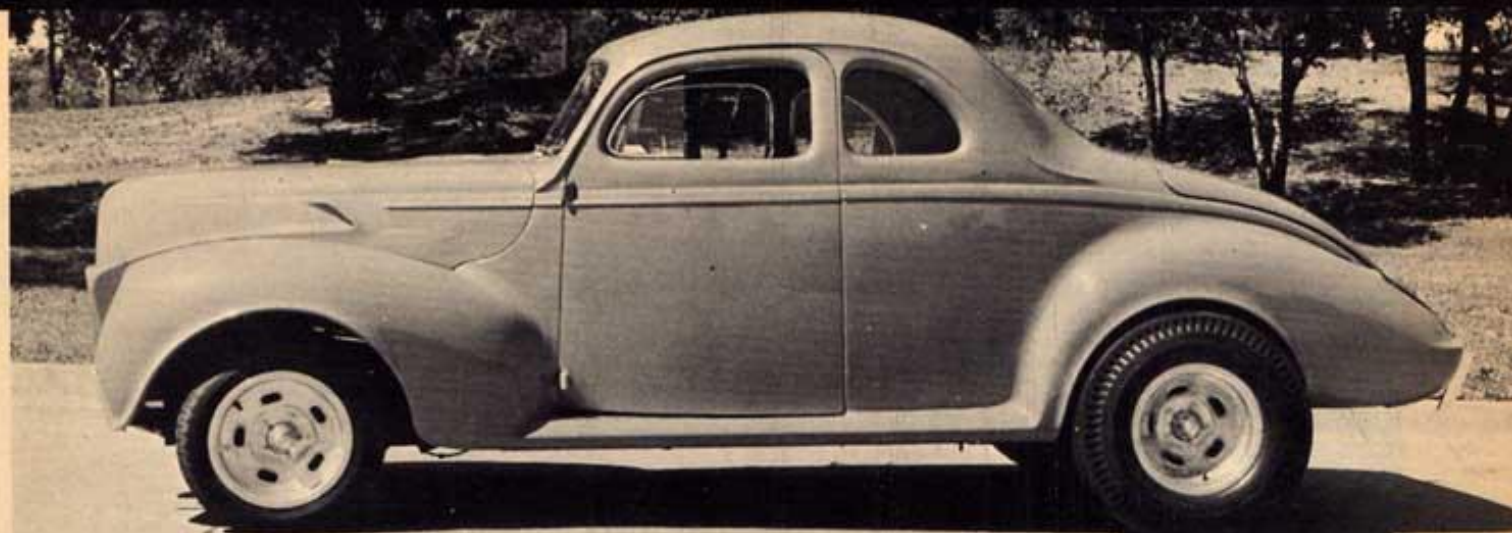
As most of the speed equipment is "Vette," use the Revell Corvette engine, it has all the goodies, and lots of chrome too. As an alternate, use the entire engine & drive line from the Revell Tweedy Pie, and fabricate the injection unit. The coil spring shock units used for rear suspension can be made by wrapping soft wire around a long tubular shock unit such as used on the Revell pick up.



1. Body — AMT Ala Kart
2. Engine — Revell Corvette or Tweedy Pie
3. Wheels & Tires — Revell Custom Car Parts
4. Transmission — Revell Outlaw or Tweedy Pie
5. Rear End — Tweedy Pie



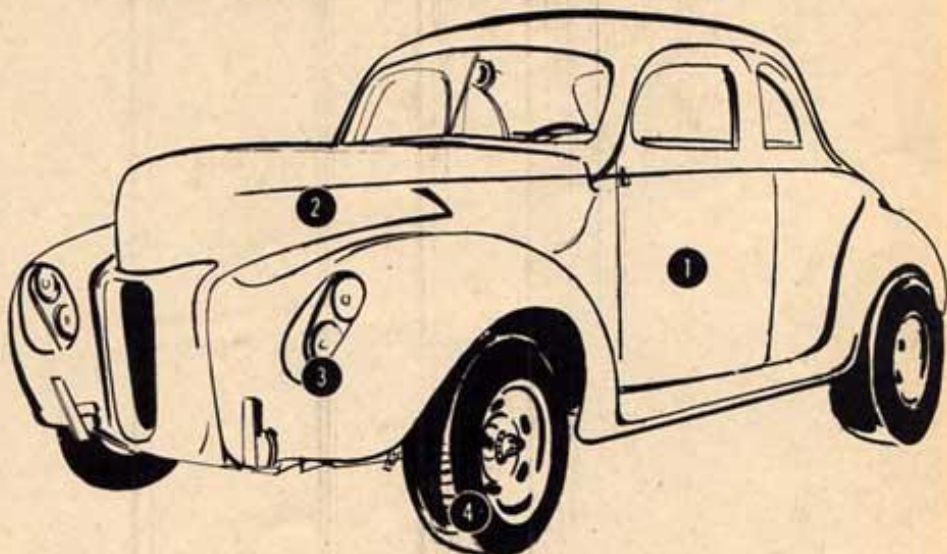
and HOT RODS BUILD THE MODELS



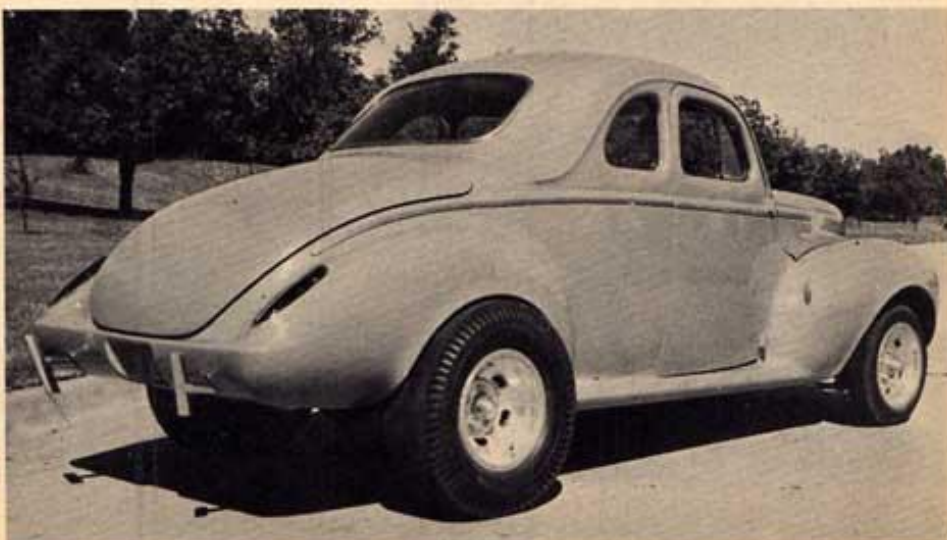
Nothing wild or far out on this Trophy Series '40 Ford coupe from AMT, just a neat clean, show & go coupe done in very good taste.

If you have an AMT Edsel of a few years back, you're in luck for the grille opening. If not, form one from a strip of sheet stock approximately 1/4" wide. Shape back edge to fit front of stock grille front. Cut out old grille inside new opening and fill area outside new opening. Blend sides to hood and fenders with filler. Use quad lights from any late AMT customizing group. Cut openings in fenders to fit. Use scrap sheet stock to fill gaps and form tunnels. File small scoops in each side of hood and shave chrome strip in center. Trim fender openings to fit tire radius, and round off sharp edges. Next, cut out center divider in rear window and open up to a rectangle; leave a good radius in the corners. Roll under the bottom edges of all fenders as well as the rear panel under the trunk lid. Insert license plate at rear. Fit '60 AMT Corvette taillights to rear fenders. Mold fenders & running boards to body with filler. The flathead Ford engine has been replaced with a Chevy V8 mounting a G.M.C. 4-71 blower and Hilbourn two port injector & air scoop. To finish like the original, use a bright orange paint and you might try adding the belt line chrome strip from the Revell '41 Willys Coupe kit as a finishing touch.

SPORTY FORTY

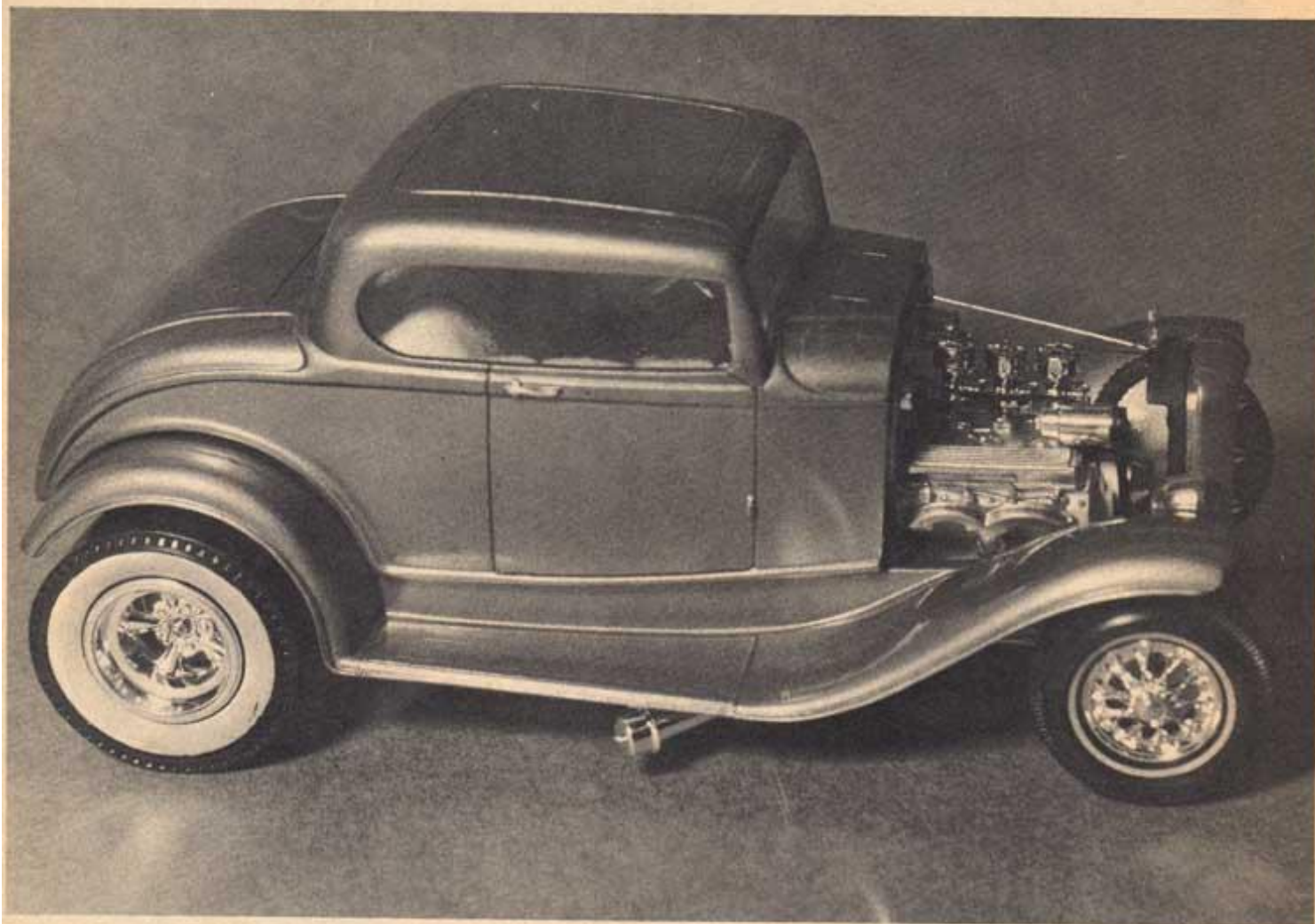


1. Body — A.M.T. '40 Ford Coupe
2. Engine — Revell Chevrolet kit, 4-71 blower, injector and air horn from Revell Attempt kit.
3. Quad Lights — Custom item in most A.M.T. kits.
4. Wheels & Tires — Revell Competition kits.

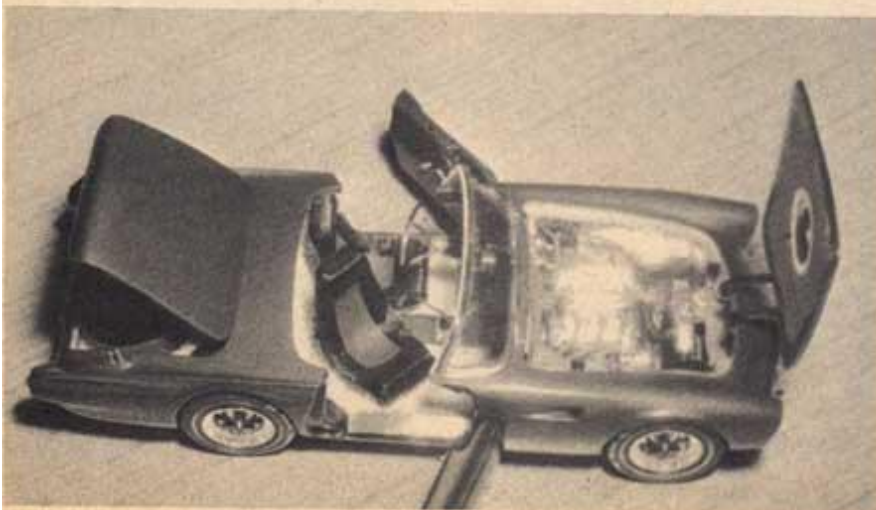




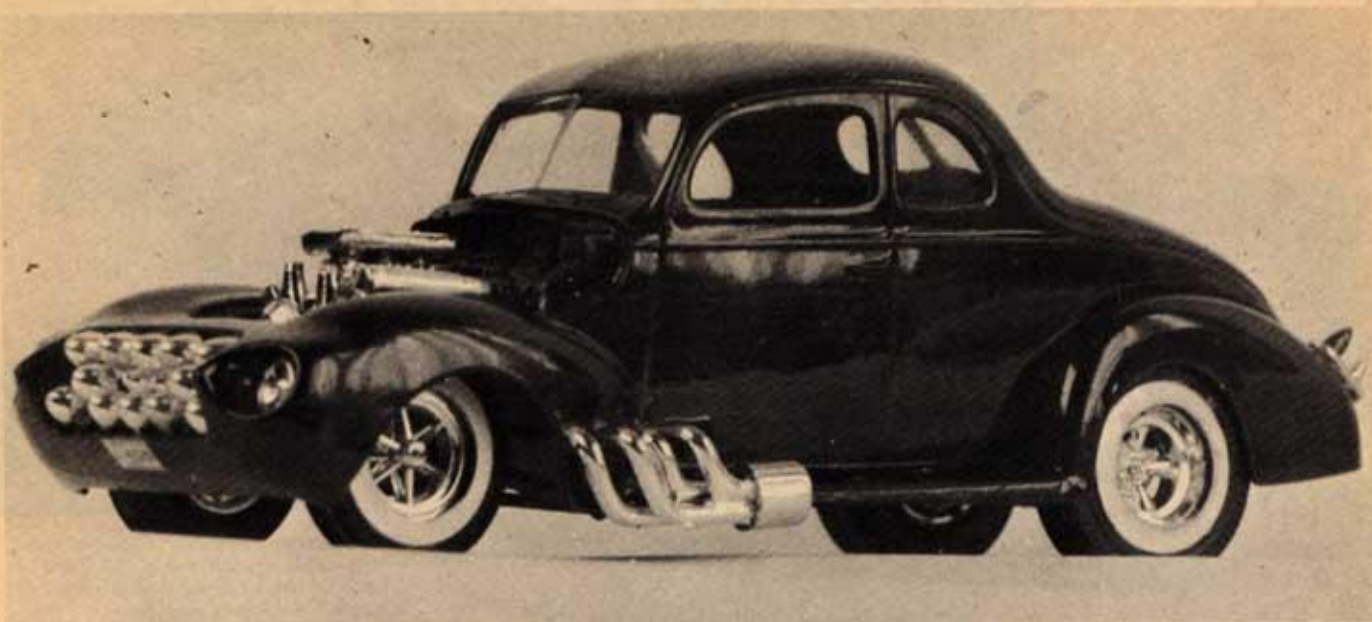
CONTEST WINNERS



This month's trophy winner is Virgil Epperson of Mishawaka, Ind., who performed but minor changes to his '32 coupe. However, the car has been so finely executed that Virgil receives our heartiest accolades. Color is gold-flaked blue.



The opening doors, trunk and hood of Harry Auffinger's '57 'Bird are all custom touches that show attention to detail. Grille is DeSoto, lacquer paint is a wild metallic red.

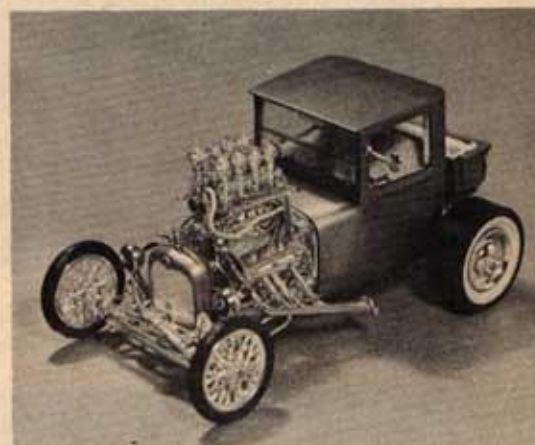


Few of the ever-popular '40 coupes have undergone such tasteful yet radical restyling as has Bob Menard's entry from the State of Maine.



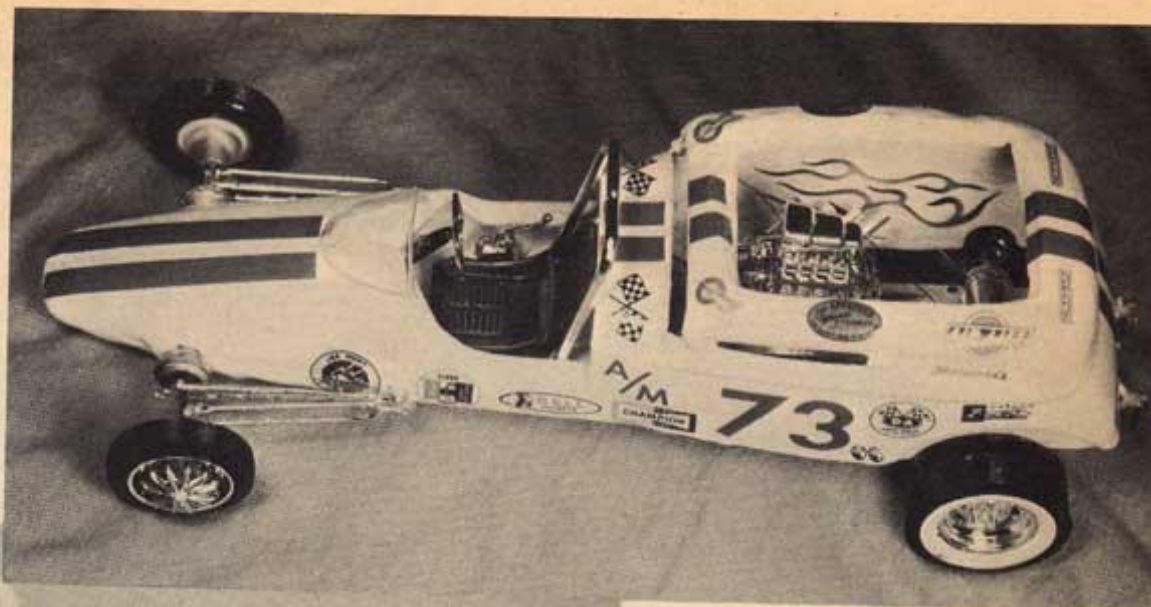
Fred Christian's '32 Ford coupe sits on a handbuilt frame. A blown Chrysler furnishes "power" and the engine is fully wired and otherwise detailed (above).

Dave Pride used two AMT '25 T kits to turn out this nifty short-bed, coupe hauler. An eight-carbureted blower sits atop husky V-8. Truck came from New South Wales, Australia.

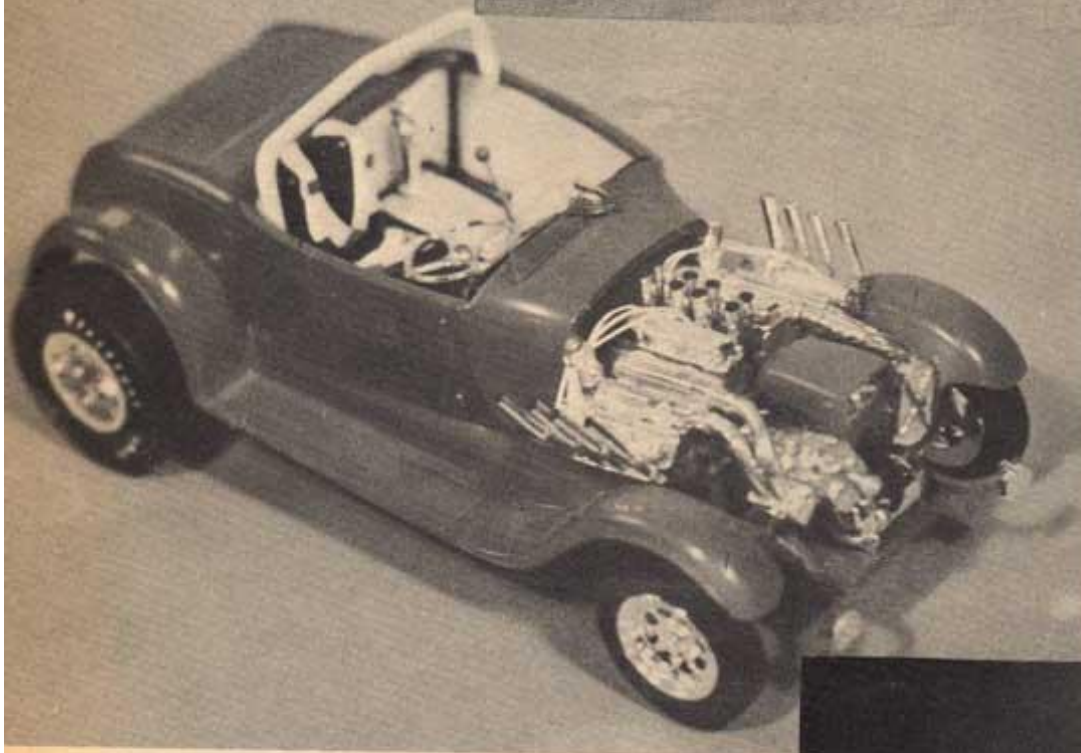


"Dennis (Thompson's) Menace" from San Gabriel, Calif., is an exotic '62 Buick Electra with an elongated top which puts it in the fast-back category.



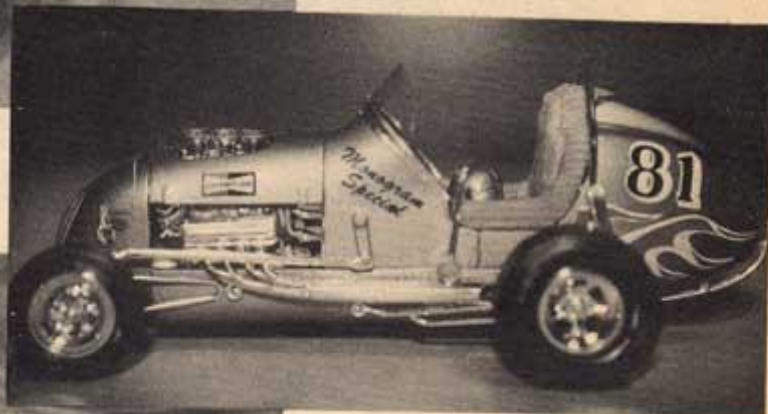


The first of Sheldon Cousins' two entries this month was a '32 Ford Victoria, the body of which now houses a Cadillac engine. Driver rides up front in this unusual creation.



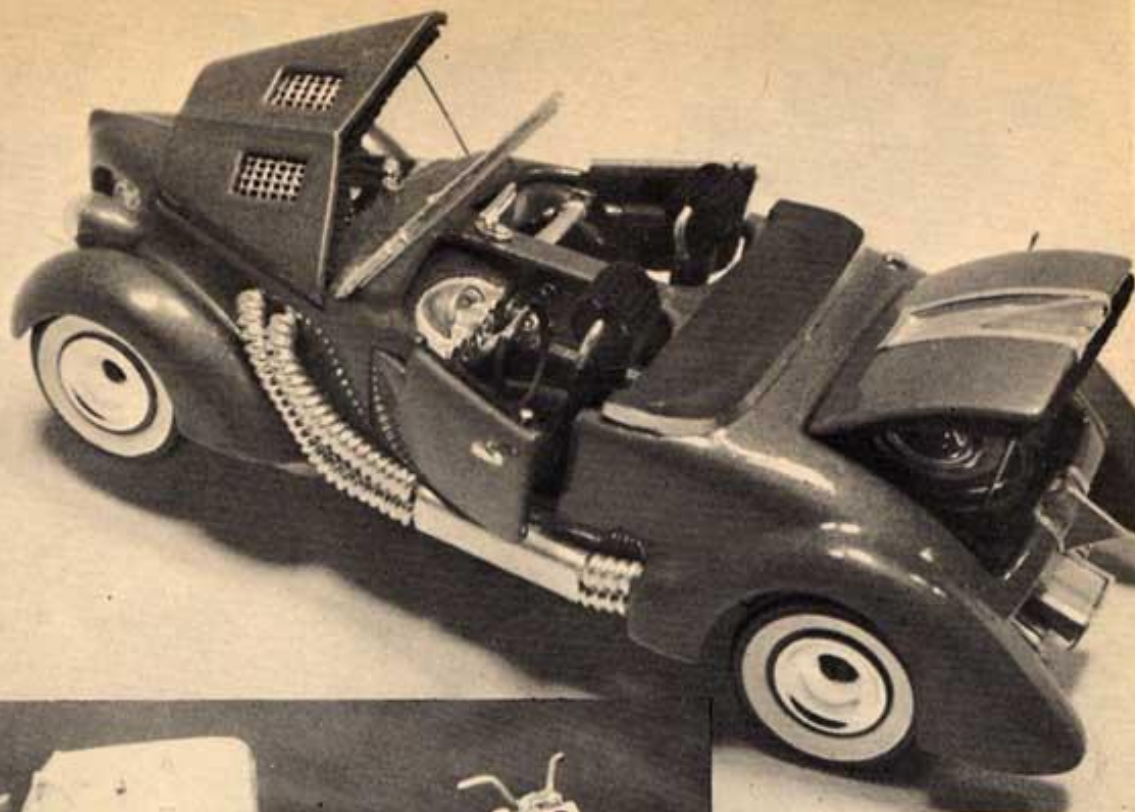
Ohio's Don Pettay crammed two blown Chevy's into a '29 A roadster, wiring each in perfect detail. Upholstery is white corduroy, body is red.

Floyd George detailed his racer so carefully that it is hard to tell it from the real thing. Kit is a Monogram.

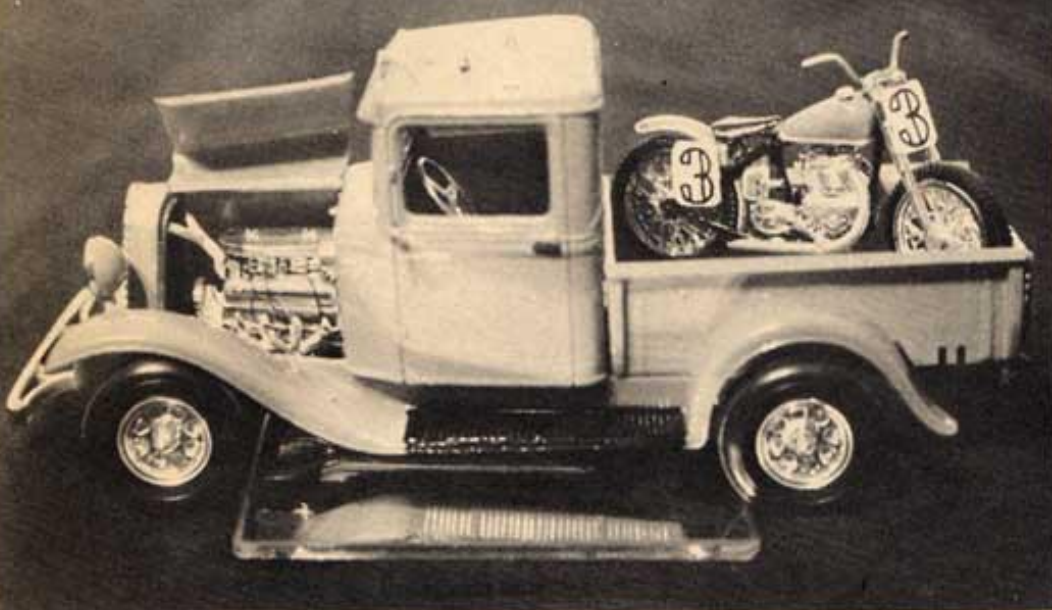


An AMT '60 'Bird is the basis for Sheldon Cousin's double-bubbled custom. The front end is '62 Buick and the model is painted in Sapphire Blue.





The '36 Ford roadster has always been a favorite — in full size or scale. Jack Fox's has been sectioned and the area beneath the deck lid recessed.



Bill Neely's entry is a '34 Ford semi-custom pickup with 'Bird mill. The rod is finely detailed right down to the chrome tailgate chains.

a **MODEL CAR SCIENCE** *Contest*

FOR MODELERS
EVERYWHERE . . .



Each month the editors of MCS will select, from PHOTOS submitted, the top model car. It will be shown on these pages and its owner will receive a \$25 U.S. SAVINGS BOND

SEND A PHOTO OF YOUR PRIZE MODEL TODAY TO:



MODEL CAR SCIENCE

Contest Editor

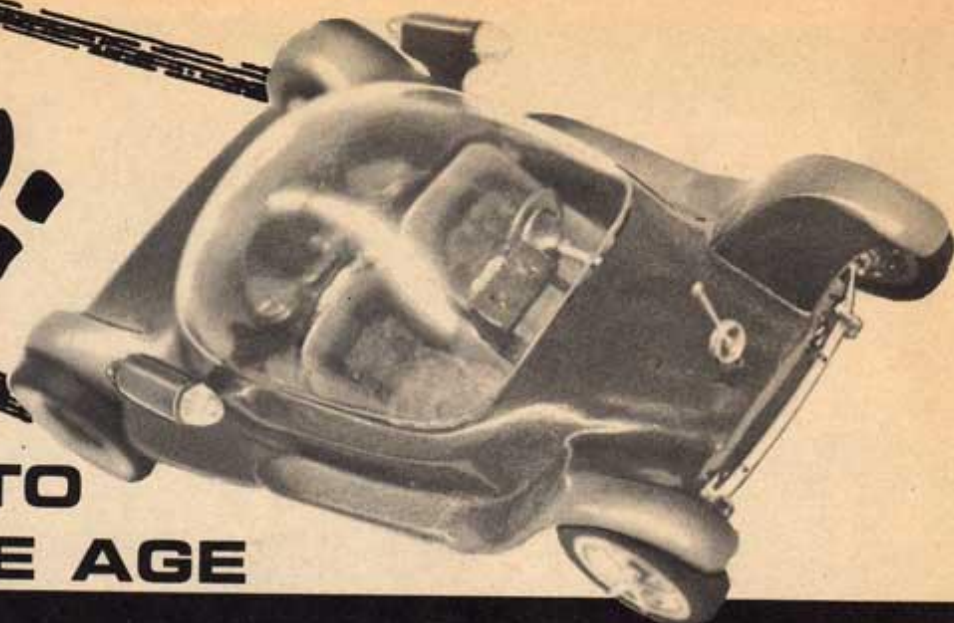
171 So. Barrington Pl.

Los Angeles 49, Calif.

You may submit as many entries as you wish. Send photos only, please. NO KITS. Include your name, address, age and information on how you built the model. Only CAR models are eligible. We cannot return any photos submitted.

X-100:

THE ANSWER TO THE SPACE AGE



When I think back to all of the thousands and thousands of model cars I have seen, only a few really stand out. You probably have the same thought. What makes these few outstanding? More than likely, they were "one of a kind" models that were different. Perhaps they had a radical paint job or the construction ideas were truly original. After seeing an extraordinary model, have you looked through all your own models and suddenly felt lost, and just plain wished that you had been the person who built that "dream job?" These were my feelings and I decided to do something about it. None of my models inspired me so, I had to create something original.

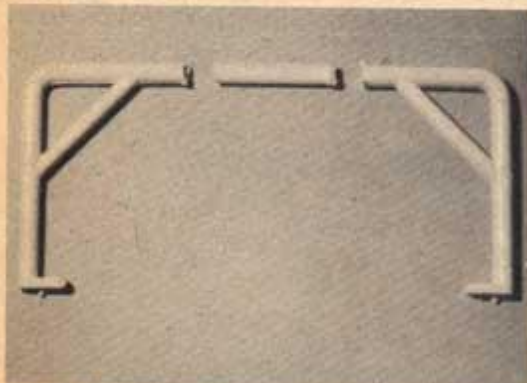
In scratch building a car, whether the basic ideas are good or bad, it just has to be original, there's no other choice. The Dream Rod featured here is not meant to be difficult to build. It was built as simply as possible to give you an introduction into a new form of model building. The car itself was designed as an "Ed Roth" type car, suitable for the show circuit only. This accounts for the extreme lowness and other impractical features. In future issues I will go into the methods deeper for more intricate models. In the mean time, try your hand at building this one. Previous experience in building models is, of course a help, but the most important thing is *time*.

As with anything, when you try something new, the problems you meet are also new. One of the main problems you will have is keeping everything square, referring to the frame. If you have the frame square your battle is half won. The only other big problem is to make sure, by constantly checking, that your

seats, engine, wheels, etc. will fit properly when you are finished. The particular trim parts, such as the headlights, taillights, seats, etc. were selected only because I happened to have them on hand. To keep your costs in hand, check your own scrap box and try to do the same.

The paint I used has been around for years but I just never got around to trying it before this. The brand name is "Kandy Apple," made by California Custom Accessories, in Los Angeles, and is normally available in auto accessory stores. It is terrific! If you want a true candy color this is the paint. It is economical, comes in a large 14 oz. can, and it does not seem to have a tendency to run when spraying. Only one word of caution, unless there is a good coat of primer on the model, this paint will craze the plastic as it is a lacquer. The unique paint job on this car was done by first applying the primer coats followed by a gold underbase. Then, with the Lime-gold, I sprayed both sides and the tops of the fenders. By staying to the outside of the model when spraying the fenders, too much paint will not hit the middle or center of the car. Then it is a simple matter to make a couple of quick passes with the candy red down the center. If you have trouble the first try just hit the model with more gold underbase and start over. The second time will be easier. Testors primer will work fine with this paint with no reaction to either paint.

There you have it, the reasons behind this model and some of the problems you might encounter. Remember: *time* is the most important part of this model.



1. Starting with just an ordinary roll bar, such as found in many kits, split the bar and add a small section.



2. After roll bar is widened, heat it just under diagonal brace until warm. While still warm, bend it into a 90° angle.



3. Take either two or more roll bars or plastic sprues and melt to the frame. Be sure assembly is flat.



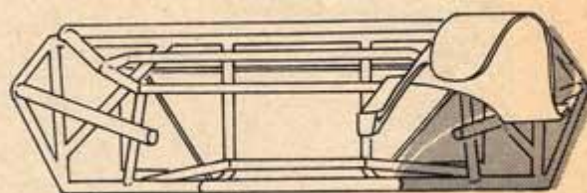
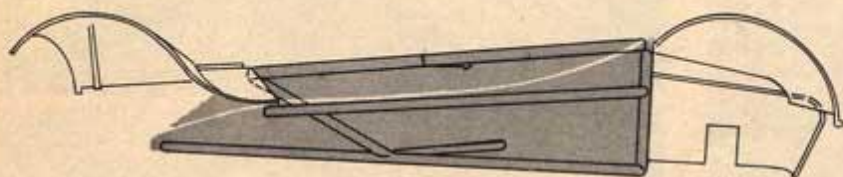
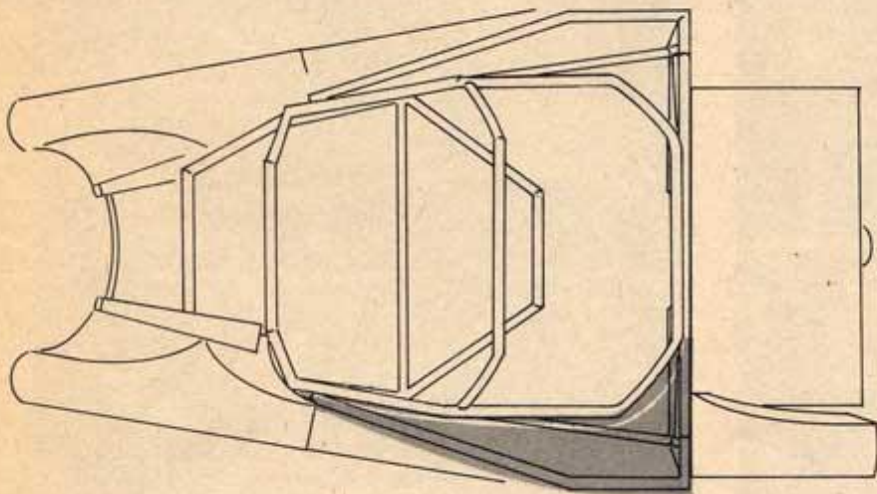
4. By heating and forming plastic sprue to the shape of the bubble top, rough anchoring point for the top is made.



5. Take the bubble top shaped sprue and melt it to your basic frame. Brace this with two small braces toward the front.

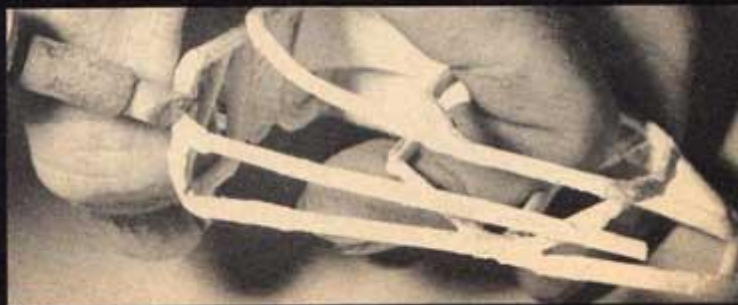


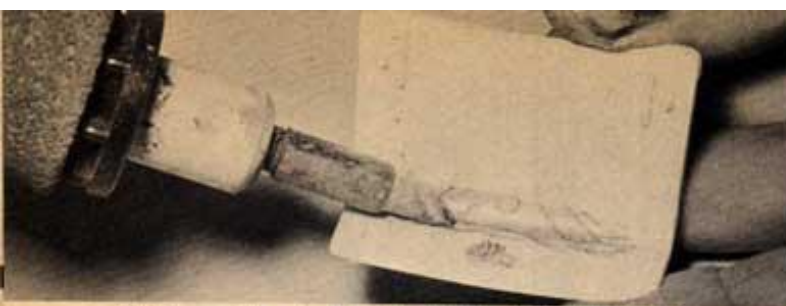
6. Another piece of plastic sprue is used for that part of the frame which will serve as the front motor mount.



7. Now is the time for engine fitting. A "V" shape piece of flat plastic in between the motor and transmission/rear end can serve as the rear mount. Motor is AMT's Corvair with a Chrysler transmission doubling for the rear end.

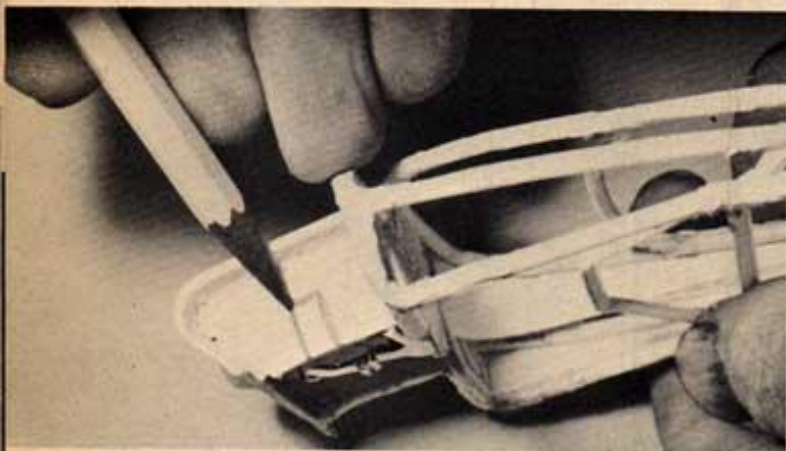
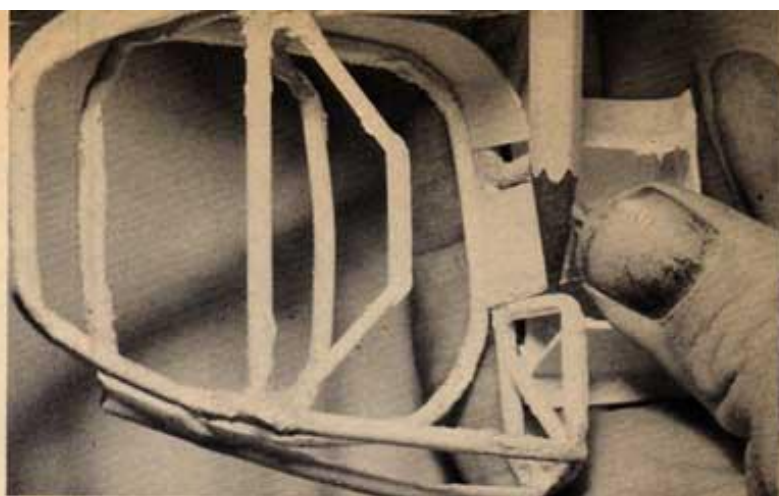
8. The basic shape of the side is formed here by just one stringer about the middle of the body. Stringer end should be angled slightly.





9. By applying heat to the inside of Revell's '57 Chevy trunk lid until warm, it can be bent back under. Warm up the small marked spot and push out with pencil, this will give the rear end more room.

10. Additional bracing of the frame should be added to both rear corners of the body. These will add to the strength of the trunk.



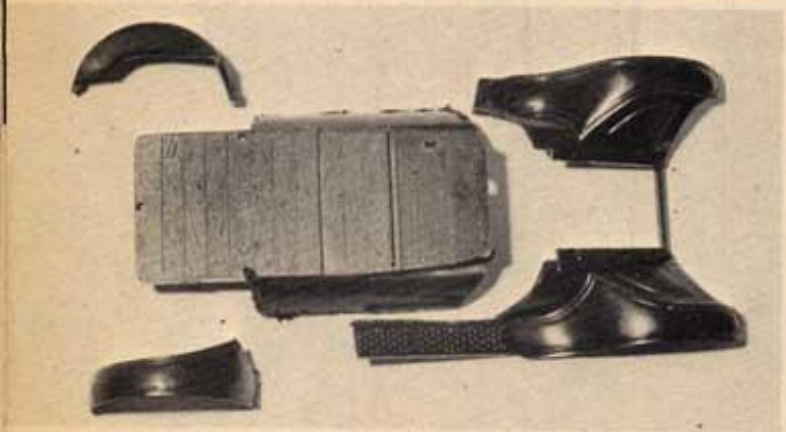
11. To really make the trunk solid cut and melt into place two side panels. Then cut slots to clear your axle.

12. Body sides are put on in three separate pieces. This piece should be the first as it strengthens the third section.



13. Mark the approximate size of the body panel first, then cut out and melt in place.

14. Third section should also be marked in advance. When this panel is in place, the first panel should be re-melted underneath this third section.



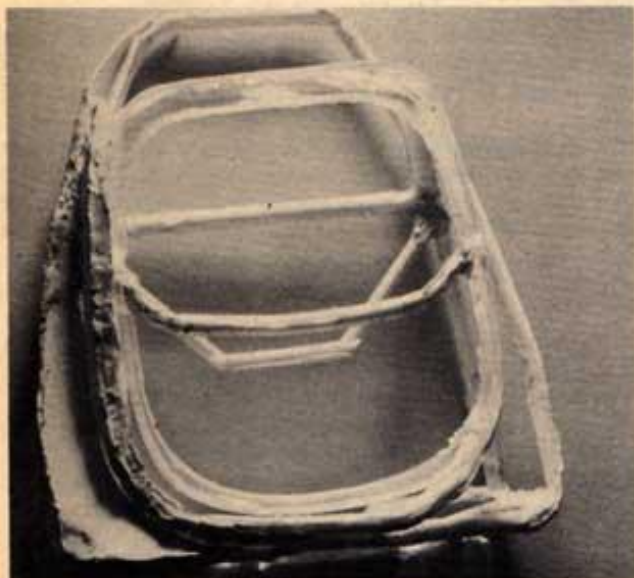
15. Fenders used were from AMT's '25 "T" double kit. To make installation of the front fenders easier, don't break connecting piece between fenders.

16. When placing fenders on the body, make sure "body pan" part of fenders is even with body top. This will put running boards a little below body top.





17. The hood is quite simple to make. Just take a piece of plastic and melt to both the body and the fenders.



21. Here you can see how the area is divided under the bubble between the seats and the engine. A clear piece of plastic should be fitted into the bubble so that when the bubble is down, engine is covered.

22. Here is the lacquer used to finish the X-100. Several coats of primer must be put on first.

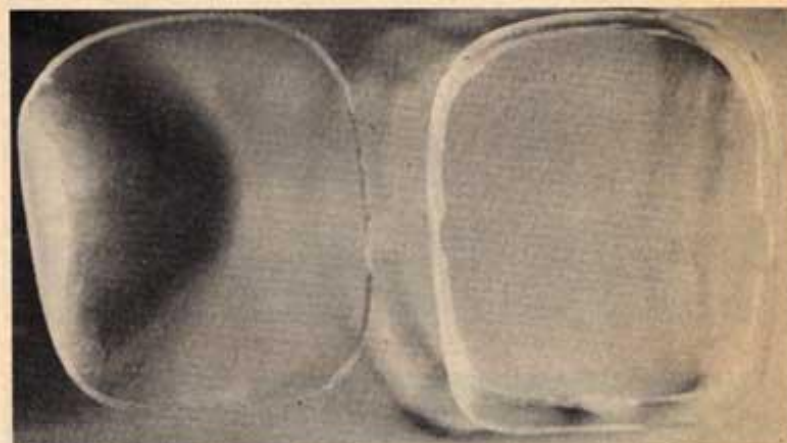
No photos of the interior in the making were taken because of its simplicity. After you have your body finished, take your own favorite putty or filler and smear it around inside the seating compartment. Because of the curves that you will get it is best you get the inside as smooth as possible with your fingers. Most bucket seats available will work. The ones used here came from the '49 Merc. They were, however, turned around so that you now sit on what used to be the back. The front end assembly came from Revell's Outlaw kit as did the steering wheel. The wheels and tires came from Revell's Custom Car Parts. The rear axles, which are the "Live" type are supported by the rear radius rods from Revell's Willys kit. The knock off's are from AMT's '63 Chevy convertible kit and the headlight lenses from AMT's '57 Bird kit.

The taillight lenses are from Revell's Custom Car Parts and the "radiator cap" is from the old Lincoln Futura kit put out by Revell a few years back. The interior was painted flat black with the center of the bucket seats flocked, and there you have it. This car is not the easiest to build but if you take your time, I think you will be well surprised and pleased with your efforts.

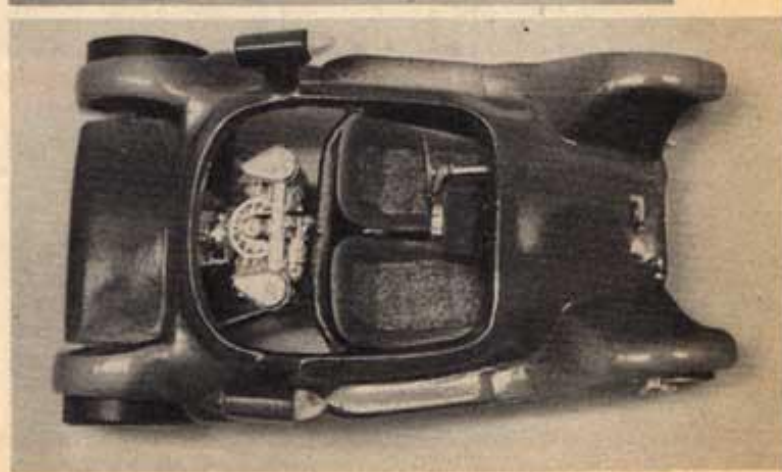


18. The headlight/taillight pods are made from fire extinguishers out of two old AMT kits; a ball point pen is a good substitute.

19. Scrap plastic is used to form the standard on which the pod is placed. The plastic should be thick enough to sand to a streamlined shape.



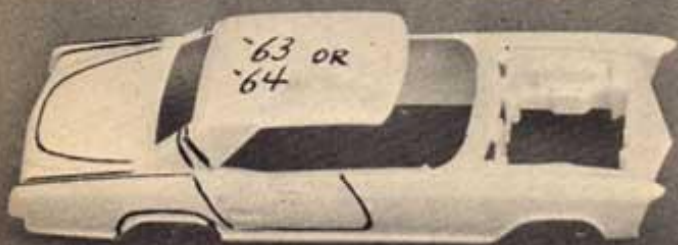
20. Easiest way to make your bubble top fit is to take a 2nd top and cut off the bottom. Turn this "slice" upside down and cement to frame. Top should now fit perfect.



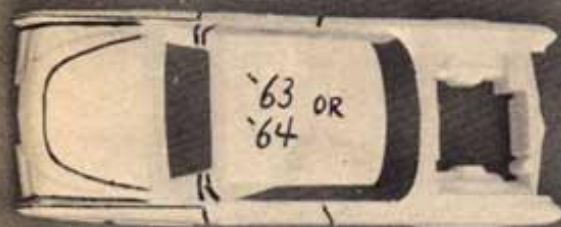
Cougar II

**Here's another exclusive
MCS Dream Car to
Challenge your design and
building capabilities!**

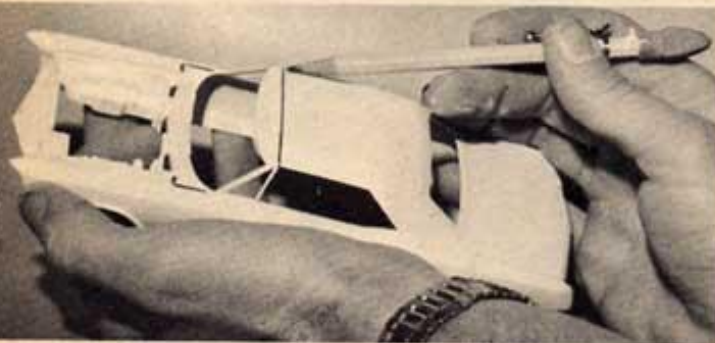
by Bob Wagner



Basic kit for assembly of Cougar is AMT's Buick Riviera.



Buick body is marked for cutting.



Mark a straight line behind front windshield for removal of top.



Windshield is separated from top with a razor saw.

COUGAR II, a styling experimental sports car, produced by the advanced styling division of Ford Motor Company. Cougar II is a two-passenger, GT (Grand Turismo's are two-seat coupes designed for ultra-fast highway travel and having sports car handling and performance.) car with a fastback roof, concealed "pop-up" headlamps, and fully instrumented interior.

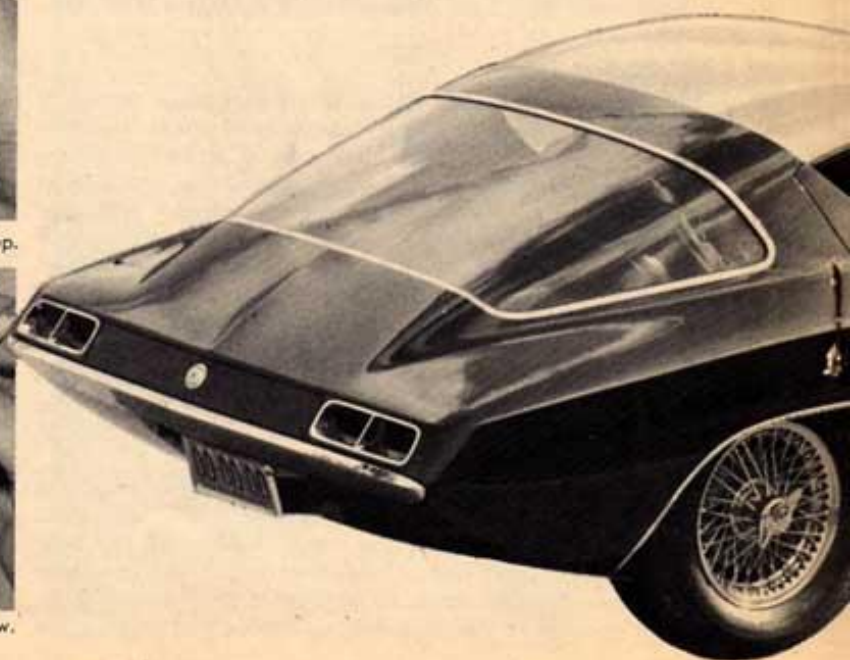
Car is 167.8 inches long and has 90-inch wheelbase. Cougar is 47.8 inches high and 66.6 inches wide.

An unusual feature of the car is the air pressure relief panel, across the rear of the passenger compartment. The device was incorporated to relieve excessive air pressure from rear window at high speeds with the top removed.

Now that we have given you some of the basic facts on the Cougar it is time to begin construction of a 1/25th scale model of this Ford X-perimental.

Basic kit for construction is AMT's '63 or '64 Buick Riviera, accessory pieces from the AMT '57 Thunderbird and '62 Corvette will also be used. The drawing provided with this information is to be used for positioning and for certain dimensions. It will be referred to frequently throughout the article. In some cases it can also be used as a template.

Riviera body must be narrowed a total of 1/8 inch. Rear fender panel is cut away from trunk. Cut is made on ridge of fender, do operation on both sides of car. Mark with a grease pencil and cut top apart where wind wing post joins wind-





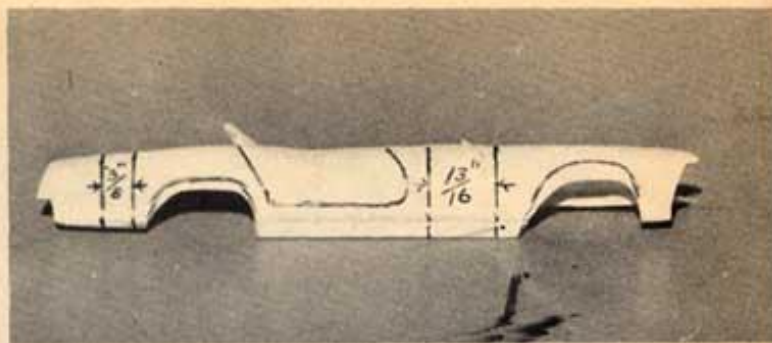
Firewall windshield assembly is removed from car.

shield post. Use Drawing A as template to make support post for Cougar top cut on rear Riviera post. Discard remainder of Buick top. Remove firewall and windshield assembly, using a razor saw.

Trunk piece that was cut out has $1/16$ inch cut from each side, lay aside until later. Trim $1/16$ inch from each side of firewall. Lay this piece aside until later also.

Radiusing the wheel wells is next on the agenda. Refer to Drawing A and use it as a template to mark the wheel wells. Cut verticle slits with a razor saw about $1/16$ inch apart. For best results, be sure slits go all the way to the marked line. Starting at edge with an angle bladed X-Acto knife, follow mark and carefully chip out new wheel wells. After preliminary cut with X-Acto knife, make a second cut to clean up any ragged edges. Use a file and sandpaper for final finishing.

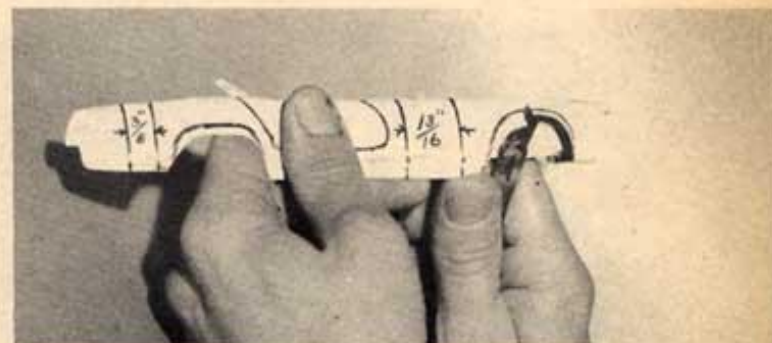
We are now ready to do the vertical sectioning of body. Body is sectioned to make it the right length. Measure back $1/4$ inch from front wheel well, mark with grease pencil. Mark body again $13/16$ inch from first line, this section is to be removed. Now cut inner wheel panel and grille shell from fender, discard these pieces. After section is removed it is trimmed $1/8$ " and glued behind middle portion of body with one half overlapping. This piece is for support and to strengthen the body. Front fender is glued to body and support piece. The rear is now sectioned. Measure $1/8$ " from wheel well, mark, lay off $3/8$ ", mark again. This section is removed and placed just behind body as was done in front. Rear fender



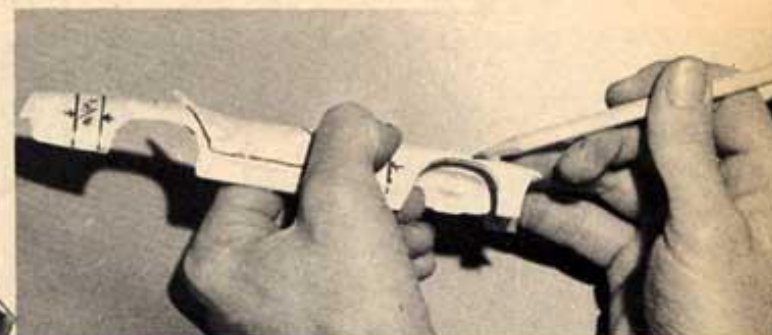
Car side marked for wheel well radiusing and sectioning.



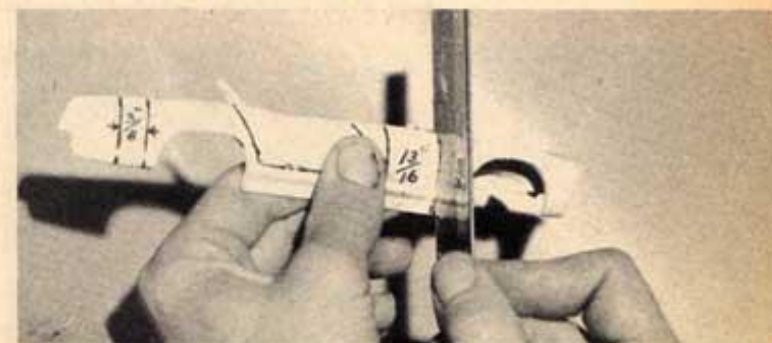
Cut vertical slits up to wheel well mark.



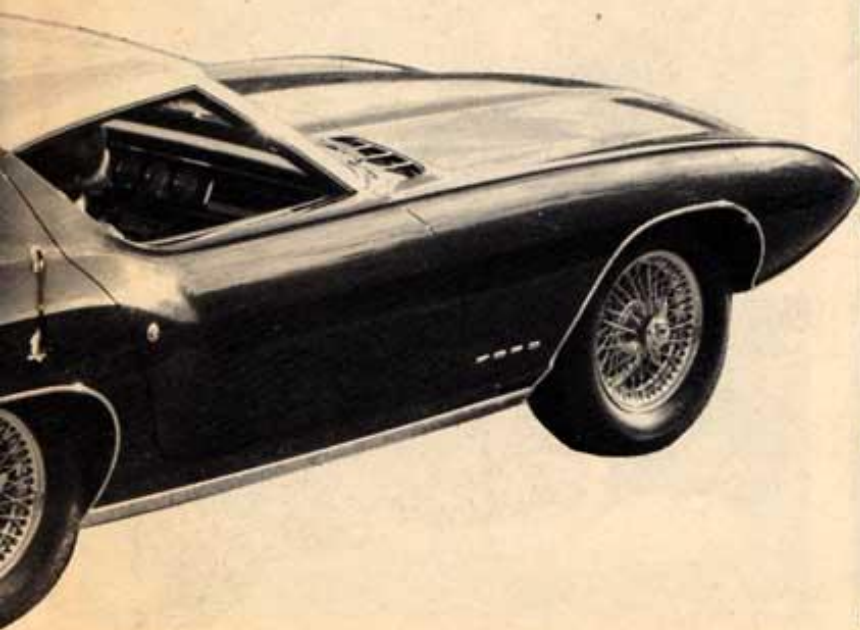
Using an angle bladed X-Acto knife chip out new wheel well.



New wheel well ready for finishing.



Front portion of car is sectioned to bring car to correct length.





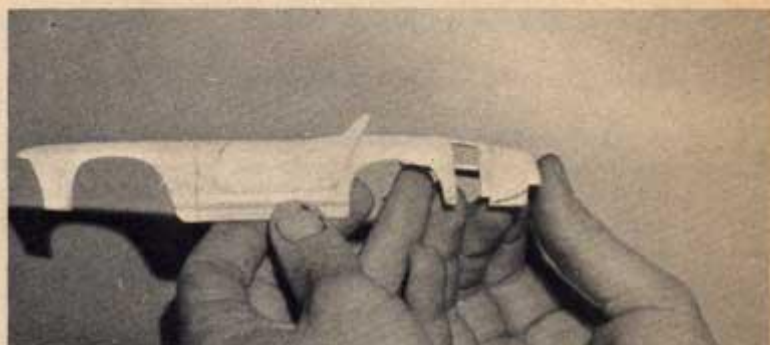
Inside wheel panel and grille shell are cut out and discarded



Back section is now cut from car side.



Piece from section has 1/8 inch removed and is used as a support.



Same procedure as front is followed here.



Support piece is glued behind center portion, allowing one half to overlap.



Rear portion is glued onto body and support piece.



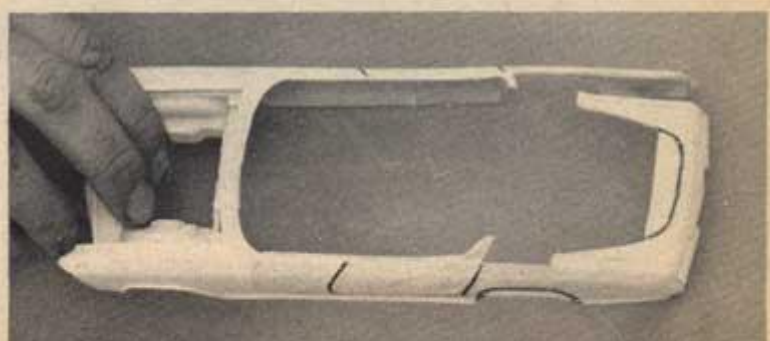
Front fender is cemented to body and support.



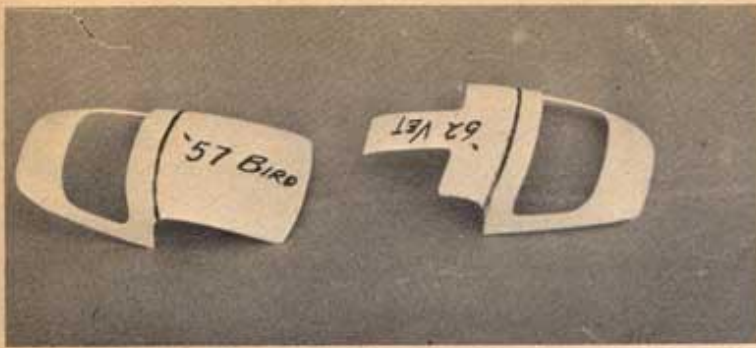
Putty in seams and finish to a flawless finish.



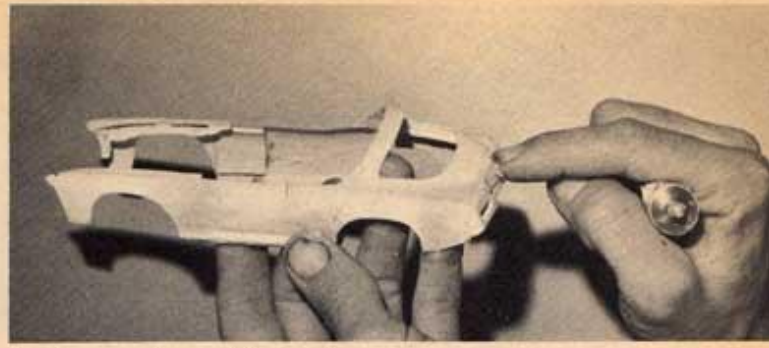
Fender is glued as flush as possible to reduce finishing work needed.



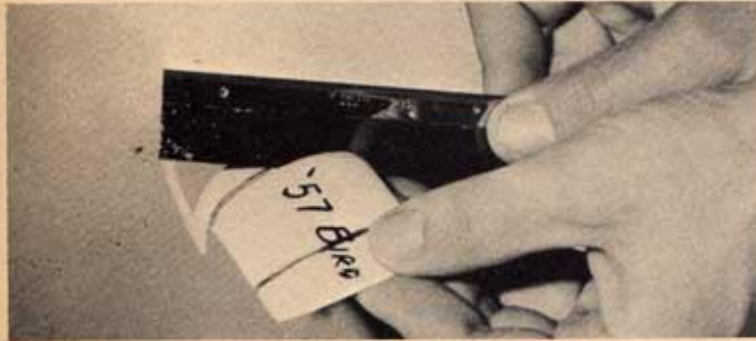
Cut portion from rear deck using fig. two, remove 1/16 inch from each side, Glue back into place.



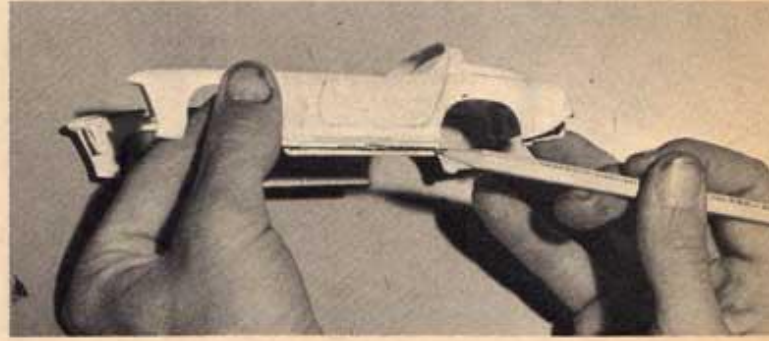
Tops are from '62 Vette and '57 Bird.



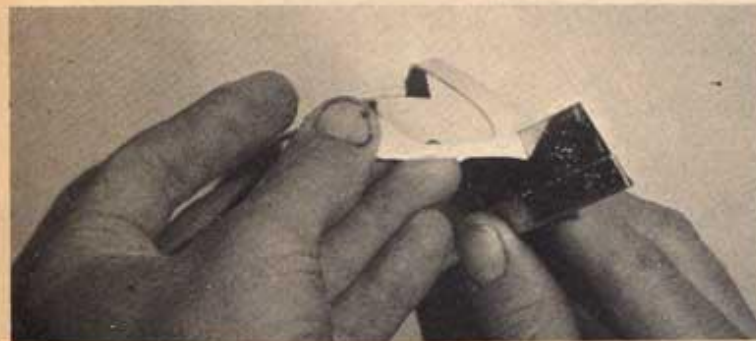
Putty in area where top joins trunk.



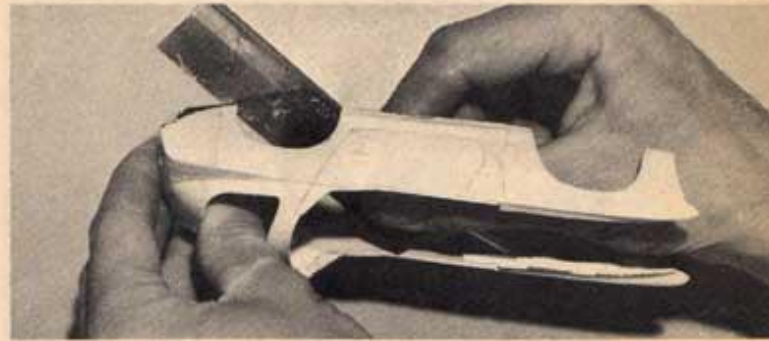
Cut window portion from Bird top.



Mark and trim 1/8 inch from body.



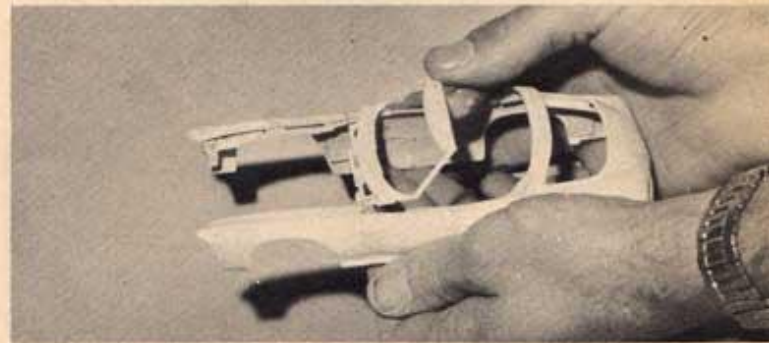
Vette window portion is notched, using fig. one as a template.



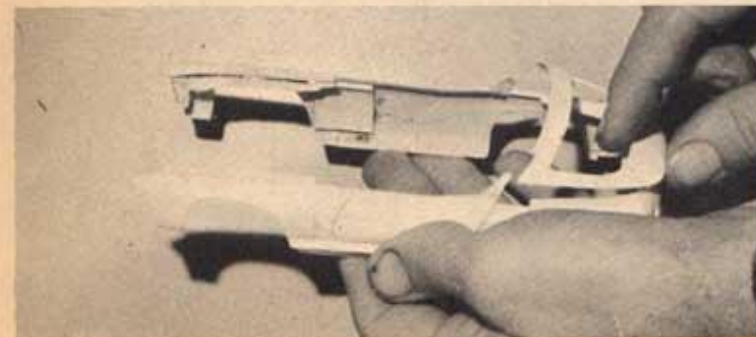
Rear portion is rounded using Fig. one as a template.



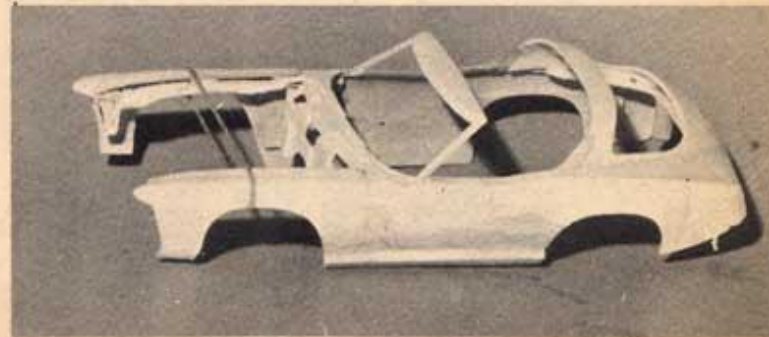
Trim rear of window portion to fit Buick trunk.



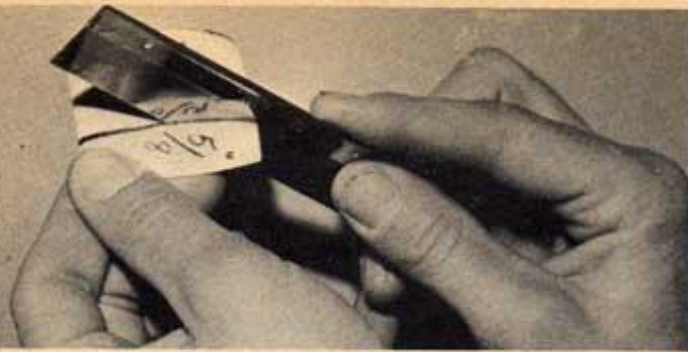
Windshield and firewall piece are fitted into place.



Window section is test fitted then glued in place.



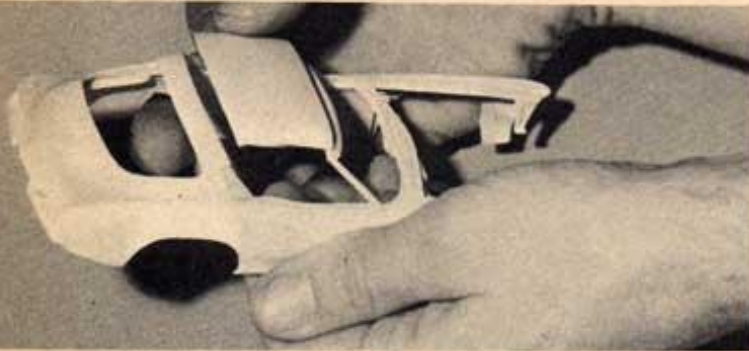
After firewall and windshield are glued in place body is held with rubber bands and set aside to dry.



Cut $\frac{5}{8}$ inch from front of Bird roof.



Lower portion of pan must be beveled slightly.



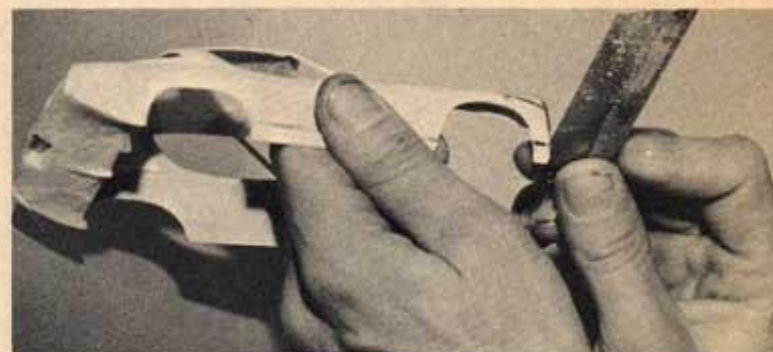
Roof is trial fitted, then glued.



After pan has been glued back together it is notched slightly.



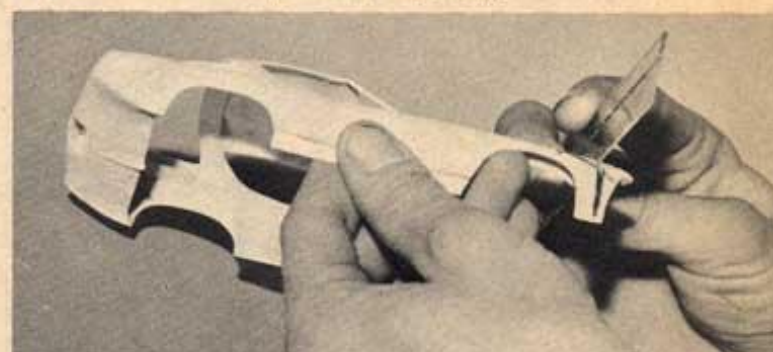
Putty all seams, cherry out.



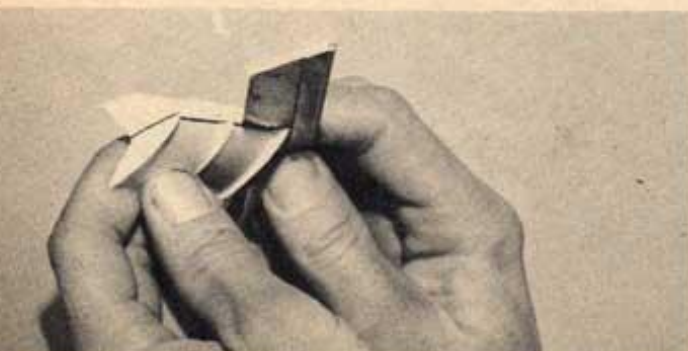
A $\frac{3}{8}$ inch is cut from body in front of wheel well.



Rear rolled pan is made from Corvette accessory pan.



A vertical cut $\frac{9}{16}$ inch from tip of front fender.



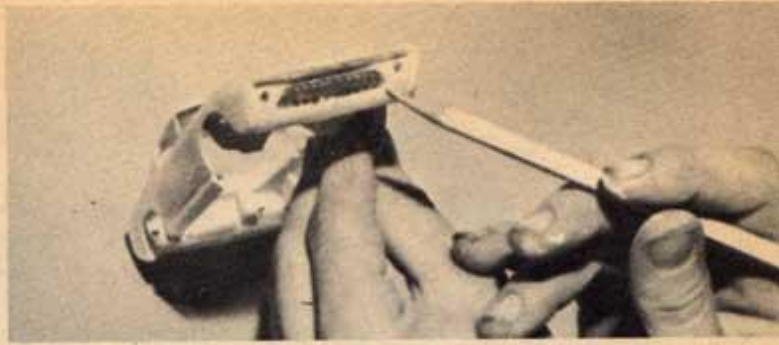
Front pan is also made from Corvette rear accessory pan.



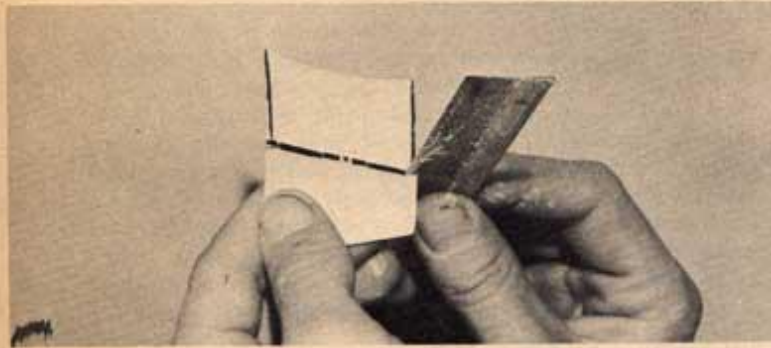
Top of fender is beveled to fit pan.



Corvette pan is cemented in place onto altered Riviera front.



61 Ford egg crate grille or wire mesh grille in place.



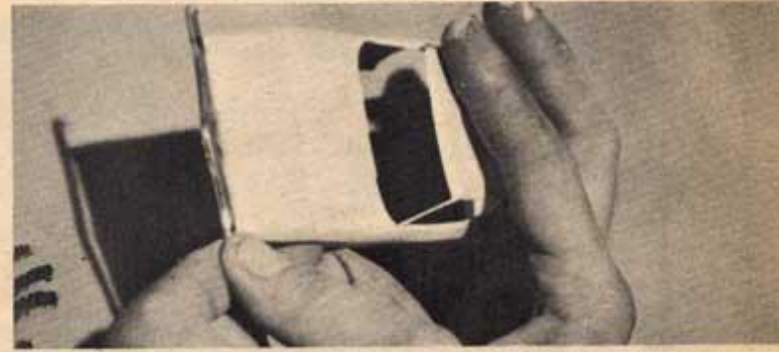
Riviera hood has 3/4 inch cut off and is trimmed to fit.



Putty in lower holes.



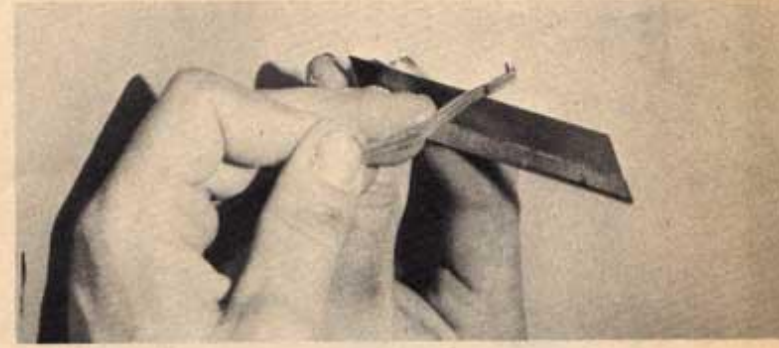
Front is held by rubber bands while hood dries.



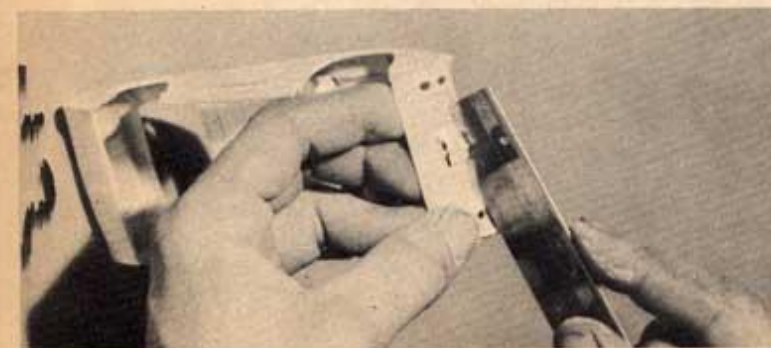
Front garnish bar is test fitted, marked to fit between fender tips.



Cut sides of grille indentation on a 45° angle.



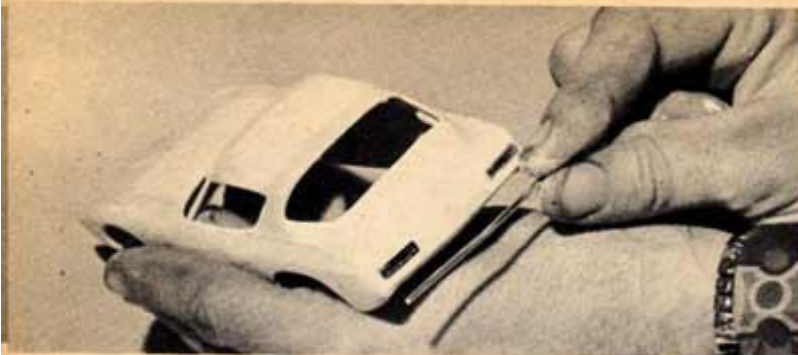
Cut bar to fit with an X-Acto saw.



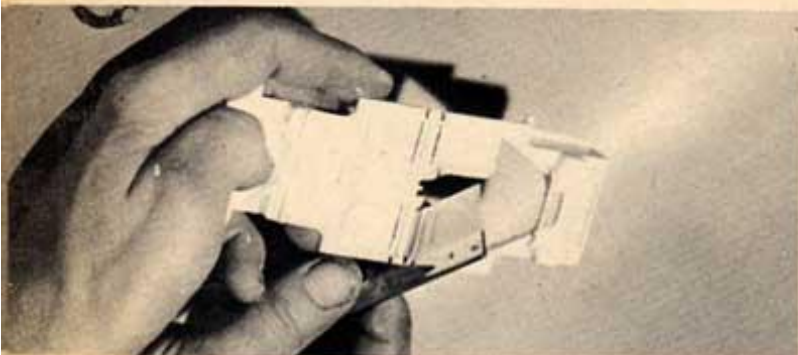
Cut out rest of grille indentation.



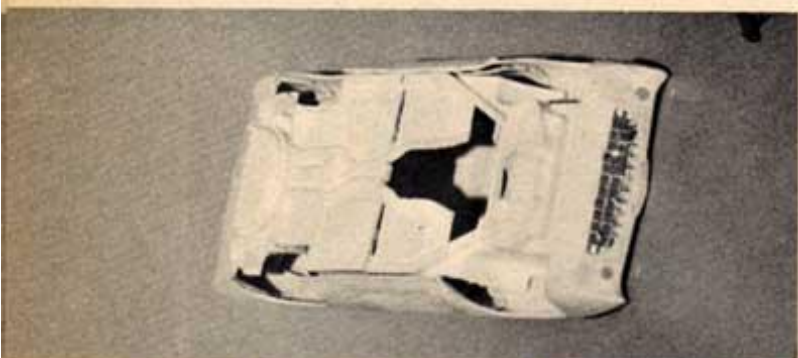
Teeth are cut from bar.



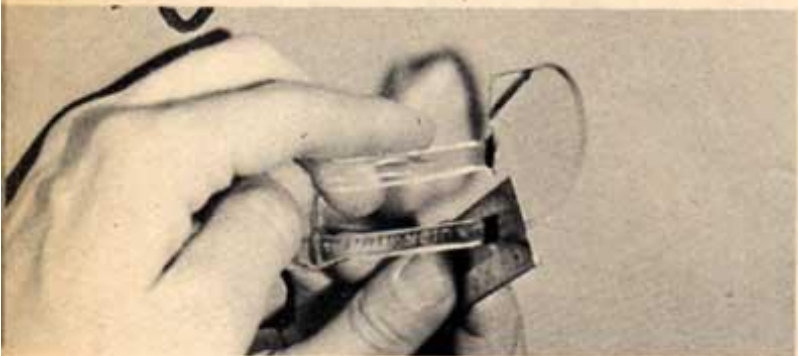
Rear bumper bar and taillights are from AMT's Buick Riviera.



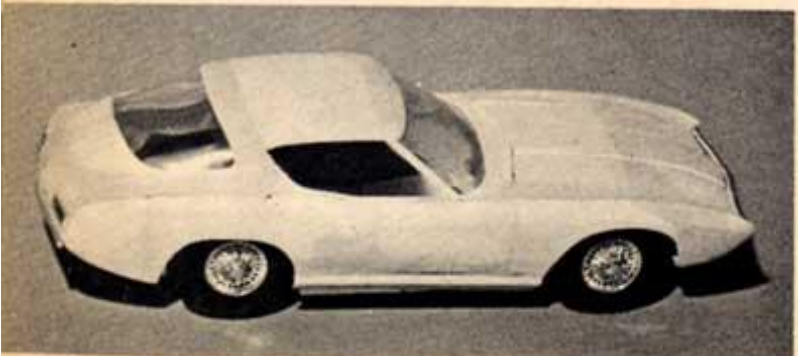
Corvette frame is sectioned at crossmember 1/4 inch.



After 1/2 inch is removed from rear of frame it is glued in place



Front glass is cut from rest of Riviera glass.



With windows in place and Cadillac wire wheels on Cougar II

portion is glued to body and support. Follow same procedure on opposite side. Putty areas that have been sectioned, also side scoops, work them with file and sandpaper until they are flawless.

Next in line is the installation of the narrowed trunk section back between the two body halves. Trunk area is cut out using Drawing 2 as a template. After cutting trunk, re-glue it between body panels. Be sure body is square, use rubber bands to hold it while drying, set aside at least eight hours to dry thoroughly. While the body is drying, we can begin work on modifying the tops.

Cut the roof apart from the window section on '62 Corvette accessory top. Discard roof section. Cut roof from window section on '57 Bird and discard rear window portion. '62 Vette window section is notched to fit over support post (refer to Drawing 1). Lower edge of Vette accessory window must be trimmed to fit onto trunk of Buick. When top has been test fitted and found to fit perfectly, it is glued in place. Putty section where bottom of roof and trunk join. File and sand area until flawless. Trim 1/8" from body edge, using a razor saw. Round lower rear section of rear fender using drawing as a guide. Cut with a razor saw, finish to shape with a file.

Windshield firewall assembly which you laid aside earlier is now cemented into place. Be sure it is square, use rubber bands to hold while it is drying. After windshield firewall assembly has completely dried, we are ready to complete roof assembly. Take '57 Bird roof and remove a 5/8" section from its front. Glue roof into place. Use putty to fill all seams. Cherry out area to a flawless finish.

To make the rolled pan for the rear: take a '62 or '63 Corvette stylizing rear pan, cut down both fender ridges and through the middle of the rear. Discard portion with the taillight holes. Piece is now check fitted, if it is a good fit it is glued into place. Seams are puttied in and cherried out through filing and sanding.

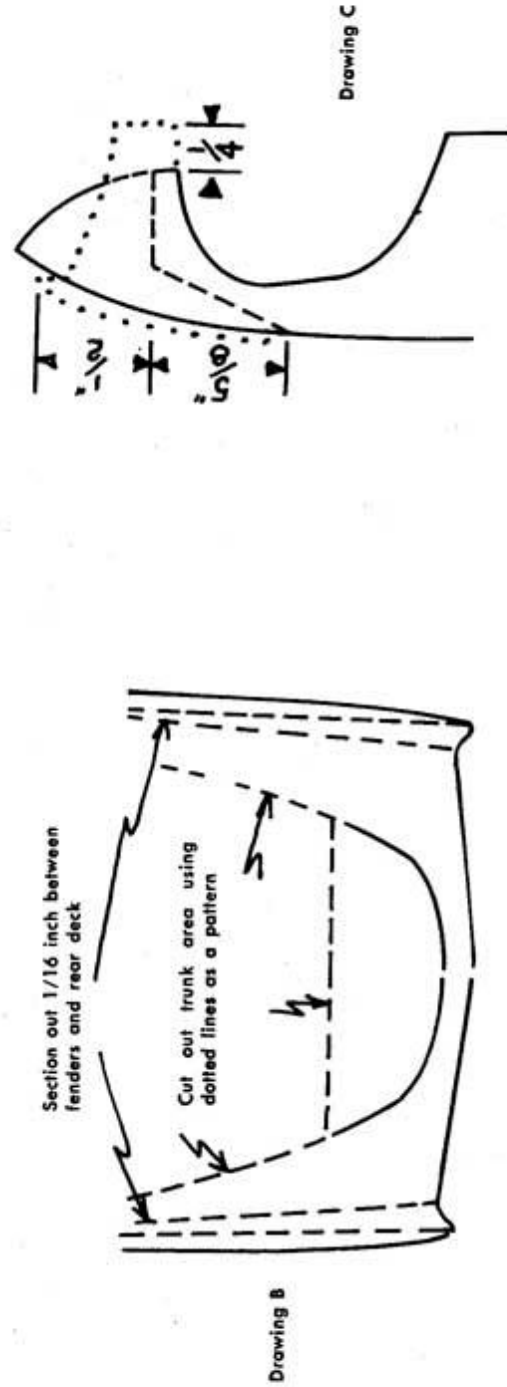
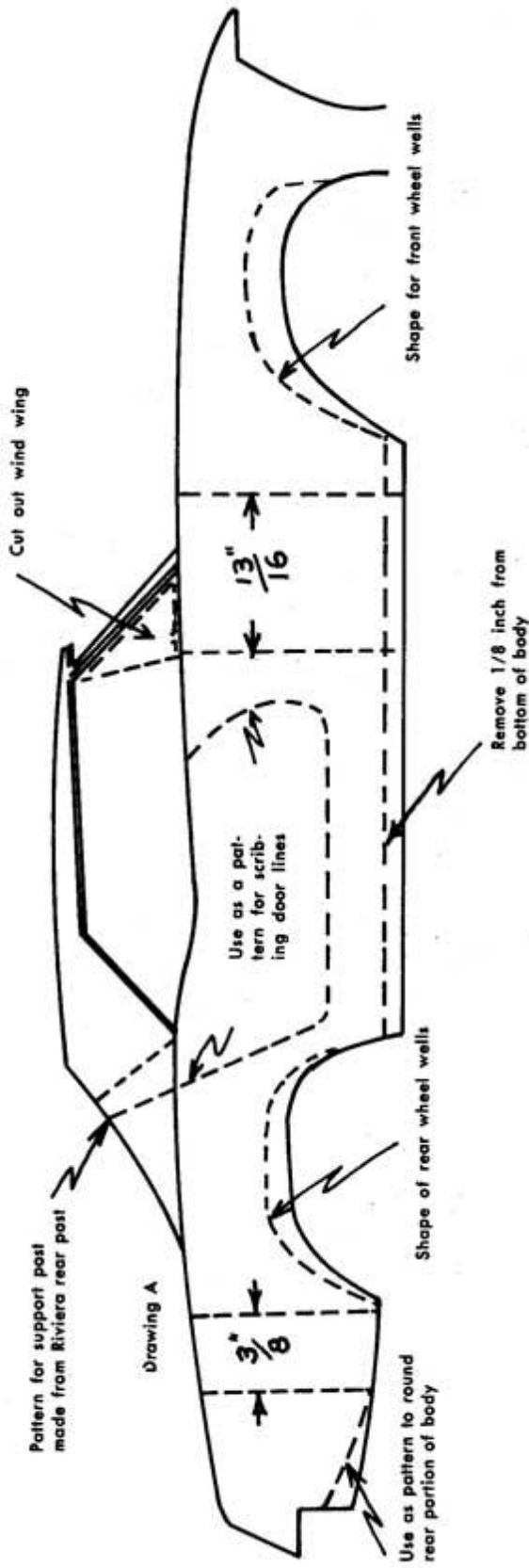
To build front pan for the Cougar we again rely on the '61 or '62 stylizing rear pan. It is cut apart thru the middle. Lower portion of pan is beveled. Start at front tip with a mark on upper edge, on back mark down 1/16", connect with a straight line, cut carefully with a razor saw. Follow same procedure on opposite side. Pan is now cemented back together and put aside to dry.

We must modify the Buick front for pan to fit. Measure from front tip of Buick fender back 9/16 inch. Mark off a straight vertical line. Cut with razor saw and discard. Perform operation on both sides of car. From bottom of front fender, measure up 3/8" and mark a horizontal line parallel with bottom of fender, cut this portion away. Front fender must be beveled next. Measure back from edge of fender 1/2" along top edge of fender and mark. Measure down from front edge of fender 1/4 inch, mark, join this mark and previous one with a straight line. Cut with razor saw. Perform on opposite side also.

Front pan assembly should be dry by now. Trial fit it onto Buick front, you will find that it will have to be notched slightly for a flush fit. After notching pan, glue it to front of Riviera. Rubber bands are used to hold body sides in place until glue is dry. Set aside eight hours to dry thoroughly, then putty in areas and flow the two contours together.

Hood fitting is the next operation. From leading edge of Buick hood: measure off 3/4 inch, cut with saw, trim sides to fit, glue into place. Rubber bands are used to hold hood while it dries.

Cougar II, Ford X-perimental



Shows dimensions for alteration of front Riviera, also how front piece fits onto Buick

NOTE: USE DRAWINGS IN SAME SCALE AND EXACTLY AS THEY APPEAR ON THIS PAGE

COUGAR II,

Measure 1/8" in from either side of grille indentation on front pan, cut at a 45° angle, cut rest of indentation out with an X-Acto saw. Refer to pictures of actual car if you need help. Egg crate grille comes from '61 Ford Galaxie Styling kit. If you do not have this piece, and are unable to obtain it, a piece of mesh from a hardware store will work just as well. Paint it silver to simulate chrome. While grille piece is drying fill in lower holes, which were originally for taillights, in front pan. A parking light from the '63 Corvette is placed in each upper hole after car is painted.

Front garnish bar comes from the Buick Electra '63 kit. Center this bar and mark for cutting. Bar will sit inside of fender tips. Remove teeth from bar and cut to fit. Paint silver where teeth were removed. Install after car is painted.

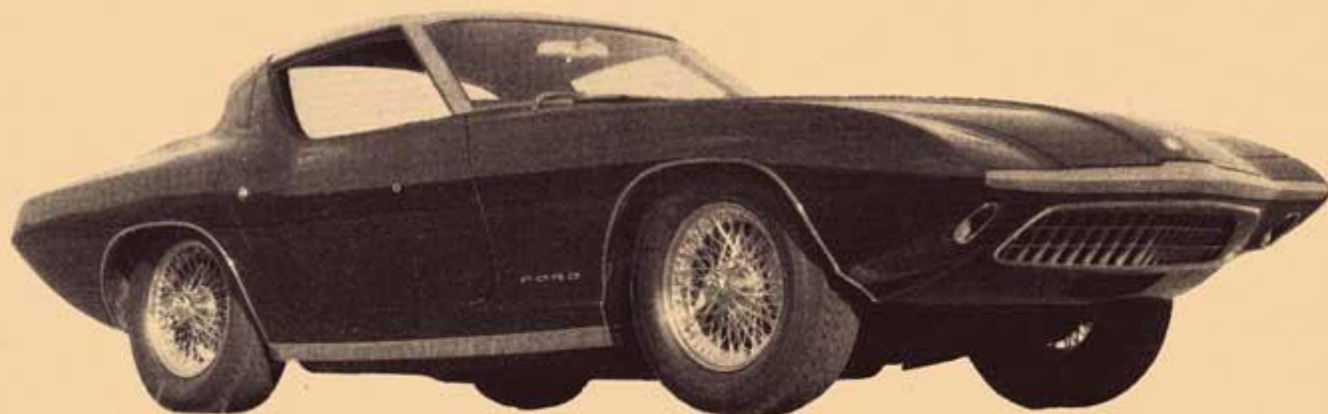
Taillights and rear bumper bar are AMT's Buick Riviera. These also are installed after car is painted.

'63 Corvette frame is altered to fit. It is sectioned 1/4 inch at middle cross-member. Frame is then re-glued together. One half inch is removed from rear of Vette frame. Install frame into car after it has dried. Rear window will snap into place, front window is cut from rest of Riviera glass, wind wing glass is removed. Glue front windshield in place. All this is done after painting.

Wheels are Cadillac wires from the Johan Kit, utilizing Aurora Jaguar knock offs. Scribe in door lines, hood lines, rear relief door lines, and headlight door lines.

Build up hood ridge from putty, sand and file to shape using Cougar pictures as a reference.

Color of this car is a brilliant candy apple red.



Custom Building Tips ... from Reader to Reader

Simple Sanding System

"I have found that an old Erector set motor with a spool glued on the tip makes a great sander. You take the grain sandpaper you want and glue it on the spool. It won't get into the corners, but it is tops for routine body work."

Steve Ellsworth
Downers Grove, Ill.

No More Broken Wheels

"I've found that when using Revell wheels on metal axles, the plastic hub on the wheel will crack so badly that the wheel is ruined. To avoid this problem, simply take a 1/16 inch bit and re-drill the hole in the wheel. After you do this, the wheel will fit a regular metal axle from most kits perfectly."

Larry Giltner
Inglewood, Calif.

Imitation Wood

"I have found that wood grain Contact paper works beautifully on interiors and pickup beds. It is easier than wood to work with, and still looks like the real thing."

Victor Javis Jr.
Pittsburgh, Pa.

More Zoom for the X-15

"I found that you can modify the X-15 dragster by equipping it with an Allison engine and using two of the wheels and tires off of the Challenger I for the front end."

C. Earp,
Youngstown, Ohio

Painting Pointer

"Here's a tip for those who like the looks of a painted interior but have trouble in painting it neatly. Mask the seats, or parts that are to be left white. Use cellophane tape, for two reasons: it seals well against "bleeding" and you can see where to trim. After masking, spray with a color that harmonizes with your car, let dry, remove masking, and presto! This masking idea is perfect for those wild or sharp looking exterior two-tone paint jobs!"

Ken Patrick
Wheaton, Ill.

Hot Cut Up

"I suggest the use of a heated knife when making opening doors and deck lids. It will cut through plastic like hot butter."

Lee Hardeman
Montgomery, Ala.

New Track Ideas

"When laying tape around hairpin turns on a slot track, make slashes on the inside of the tape so it will lie smoothly. When painting the track, I used a latex paint with sand mixed into it. This gives the track a surface like sandpaper and it really improves the traction."

Roger Uno
Los Angeles

Pro Paint Tip

"Try using Orange Spray paint and then apply white on top. Spray on the orange as always, then let sit about five minutes. Now spray on the white: the orange will come through in the shape of small tear drops, the color is sensational!"

Mike Gibson
Chicago, Ill.

Engine Hoist

"In the January, MCS, you mentioned engine hoists. I discovered that a very realistic and adaptable hoist can be made from a Gilbert Erector set."

David Chapman
Manitou Springs, Colo.

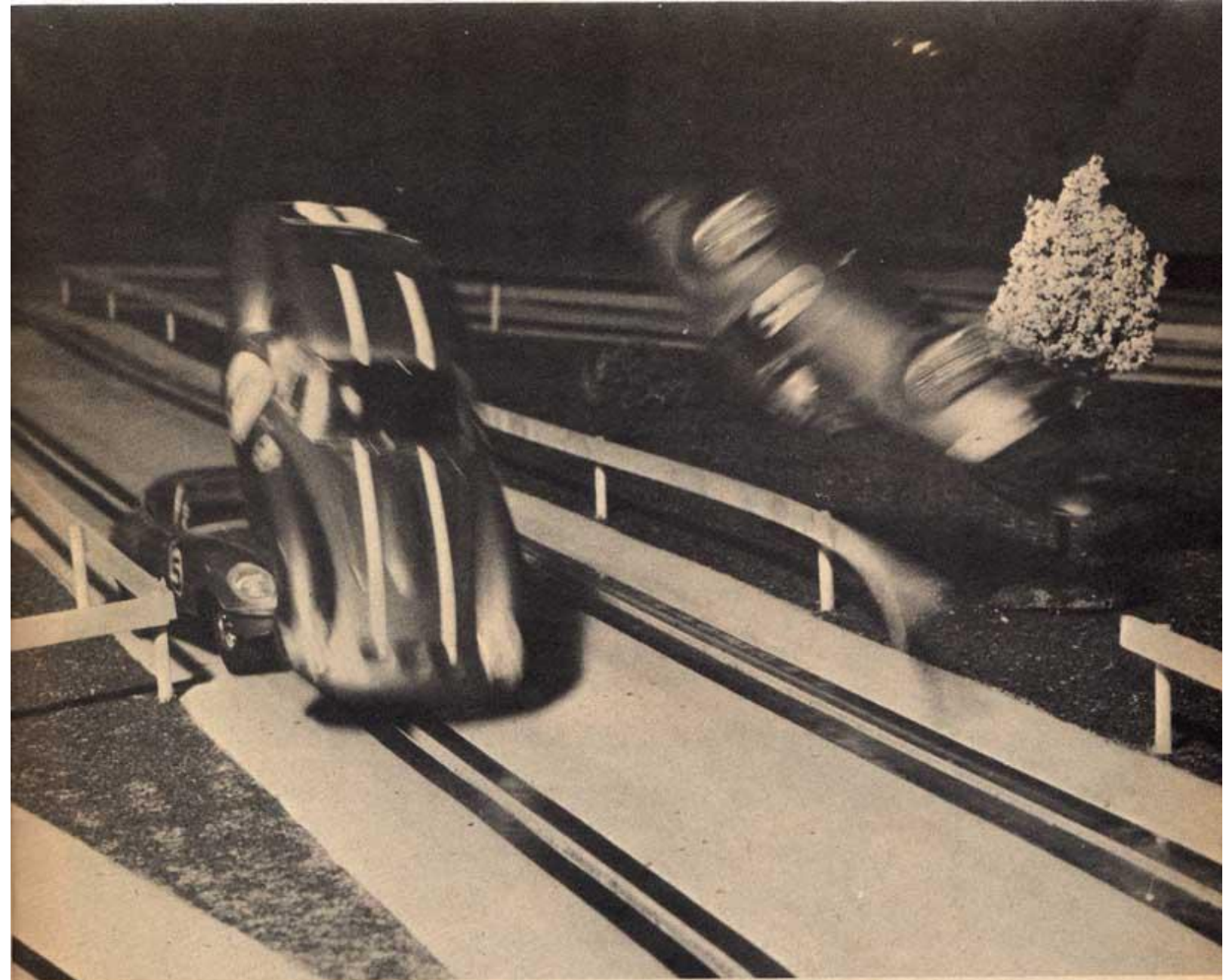


TABLE TOP RACING SECTION

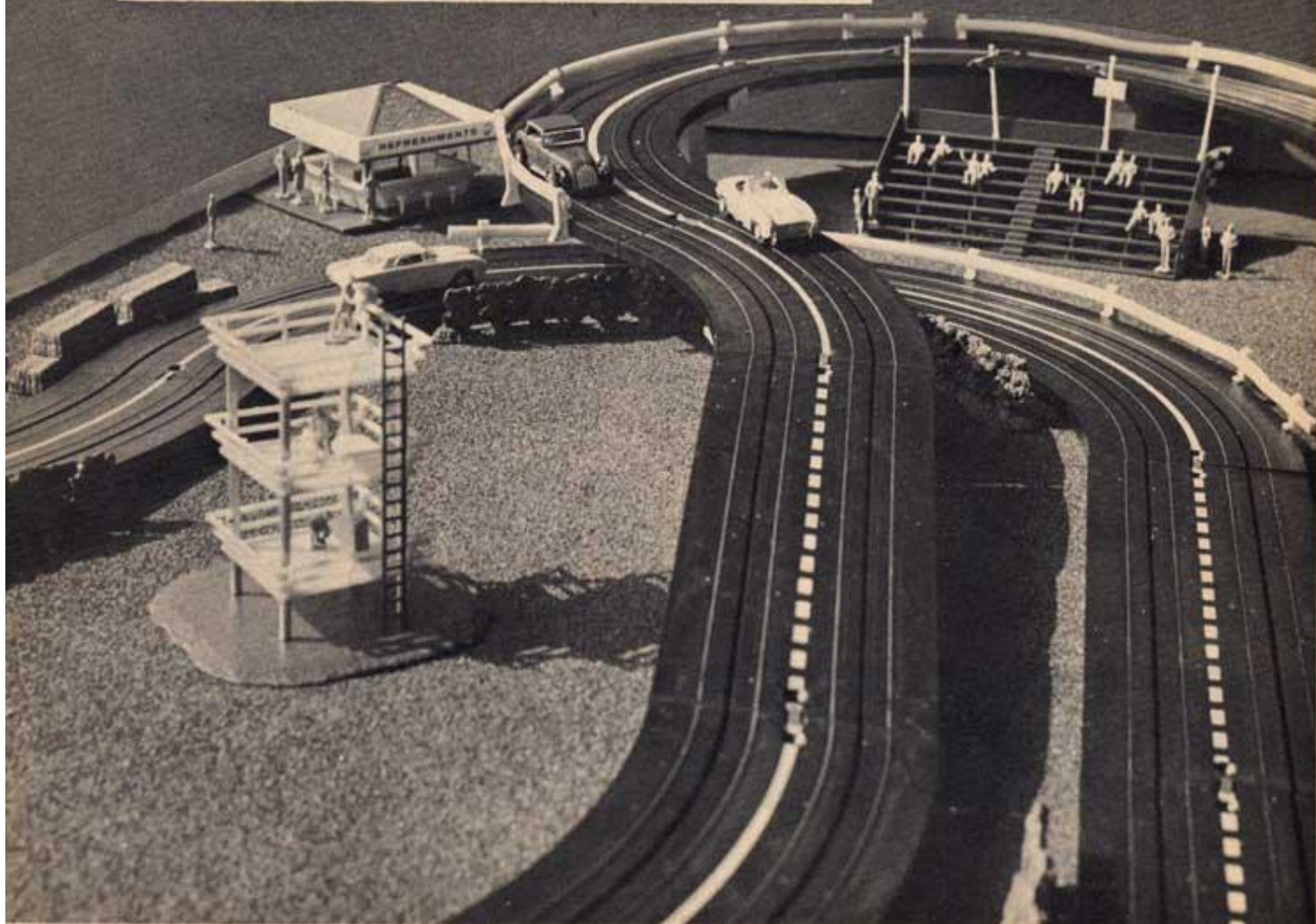
PHOTO CONTEST Each month MCS will award valuable prizes to the readers who submit the best photos of slot racers in action. Send your photos to:

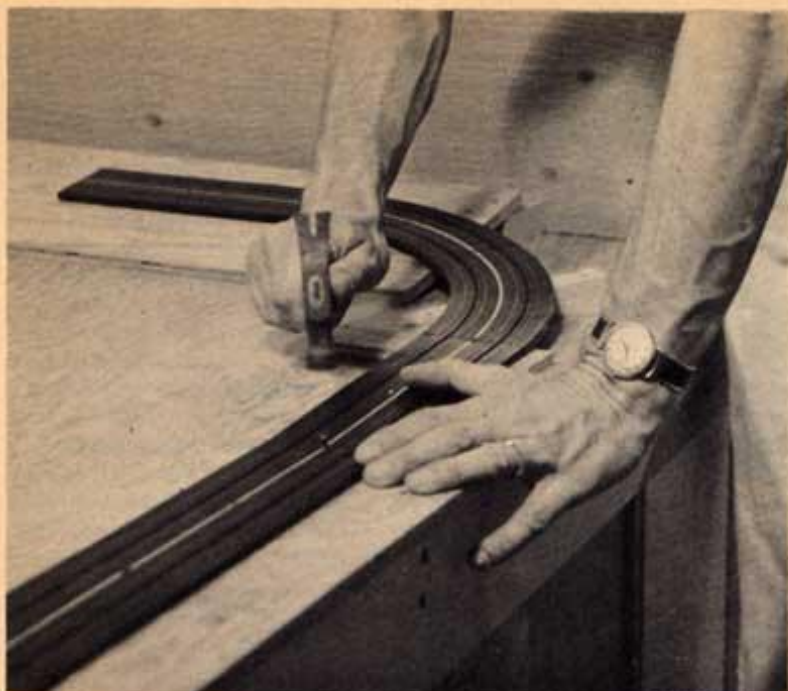
Table Top Photo Contest
Model Car Science
171 Barrington Pl.
Los Angeles 49, Calif.

THIS MONTH'S PHOTO CONTEST WINNER IS
PAUL A. SCOTT of CUPERTINO, CALIF.

MORE **GO** FOR **HO**

You can put more punch
in your 1/87th scale racers
with these easy-to-follow tips.





For best operating results, manufactured track sections should be nailed to plywood sections to keep them securely in place.

A STATISTICIAN MIGHT sum up Christmas 1963 like this: The combined sounds of all the new slot racing sets exceeded the sounds of a real Grand Prix by several decibels. Yes, manufacturers report that tens of thousands of slot racing kits were sold. Almost half of the sets were in the newly developed HO scale, or, approximately 1/87th of regular size.

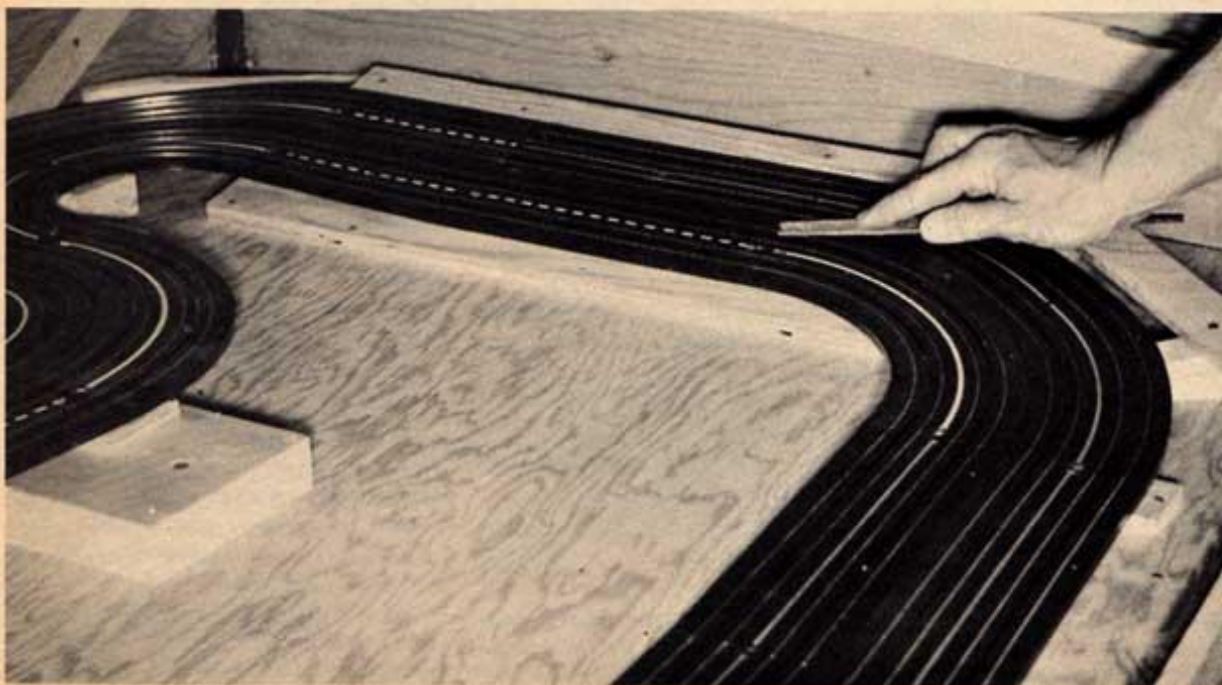
As in the early days of slot racing when even 1/32 scale was more or less considered as a toy, a scant year ago HO was brushed aside by serious enthusiasts

as a mere toy. Then, someone discovered just how hot HO cars can be and the rush was on.

Ounce per ounce, HO cars pack more power than their larger brothers in the more popular scales. Handling is therefore a bit more difficult. The car bodies are crammed full of machinery since the drive motors can only be reduced a little bit from the more conventional sizes. Tuning is more of an art than a science because relatively little can be done in the small spaces. The cars are definitely less forgiving when driven to the limit.

"Tuning" is a typical American characteristic. It is a challenge to take two cars out of the box and try to make one of them run a little bit faster. Now that you are past the first stage i.e. being amazed at just seeing the little cars run, you'll probably want to improve on performance. At least, our mail seems to indicate that the urge to make HO go faster is definitely there.

Though improving the track helps *all* cars run faster (thus, no car will have an advantage over the other) tuning the track is just as important as working on



Any rough spots where track sections are joined should be smoothed out with a file, then sanded.

the cars. Start by making sure that the track sections are properly aligned. Due to the small size of HO tracks they really do not have to be taken apart unless absolutely necessary. It is best to mount them on a plywood sheet using small nails. Most track sections have small holes provided for this purpose. Another advantage gained by this is the fact that the cars do not run so close to the carpet which would tend to build up static electricity in them. Lint adhering to cars works its way into the delicate bearings and makes them run slower. Oil from the cars will also be prevented from dripping on carpets.

Next, take a small piece of wood and run it in the slots with a little sideways pressure on it first against one side of the slots then the other. Should you notice any misalignment, cut it off with a razor blade or Xacto knife. The top sur-

appear perfectly clean, use a solvent (especially made for this purpose) to eliminate rust and tarnish.

Inspect all wiring connections. In permanent setups it might be a good idea to solder most connections. Do not heat-warp the plastic track surfaces during soldering. Gather all wiring together and make a neat wiring harness by wrapping them with electricians tape. This way, inadvertent shorts will be avoided by people tripping over a mass of wires.

If the hand controls can be taken apart clean the contacts and make sure that all connections are secure.

Now you are ready to turn your attention to the cars. Remove the bodies so all the moving components can be inspected.

The running gear i.e. axles, tires etc., must first be made to rotate freely, without binding. If the axles seem to

Check the chassis for warpage. All four wheels must touch the track with equal pressure. Most chassis can be twisted back into shape by hand. To remove the body on Aurora cars, remove the front screw only, and loosen the rear screw.

Now we are ready to tackle the motor. There are still some A.C. (alternating current) motors in use. These operate on the vibrator principle which, being similar to electric bells, require electrical contacts to make and break in rapid succession. The vibrator has a claw attached to it which advances a ratchet wheel to produce rotary motion. The points will pit and carbonize quite rapidly and must be cleaned for good performance. A very fine abrasive cleaner ignition point file or, the contact cleaner from the Aurora Hop-Up kit should be used to clean them. Adjust



Curved sections should be checked for alignment where they meet straightaway. When this has been completed, check slots for lint or dust.

face of the tracks have to be aligned also. The small cars tend to chatter when the track surfaces are not matched perfectly. You can raise the lower section by packing cardboard under it or, tighten down the higher section.

Next, using a medium coarse sandpaper, clean off the track surface. Oil and shininess can be eliminated this way. A rough road surface holds wheels better during cornering. Sanding also cleans the power tapes and strips. After sanding, clean off the track with a soft lintless cloth. If the power tracks do not

be a bit tight, you may be able to loosen them up by judicious application of special oil at moving points. If they appear to be unduly loose you can tighten the bushings by squeezing them with pliers. Plastic bushings can be squeezed by hot pliers.

The guides or pins that guide the cars, are then inspected. It may be possible to lower them a little bit so that they extend deeper into the slot. In some cases a small cardboard washer will pack up the guide and give you more cornering power.

the gaps after cleaning. You may want to experiment with the spring pressure to achieve better performance.

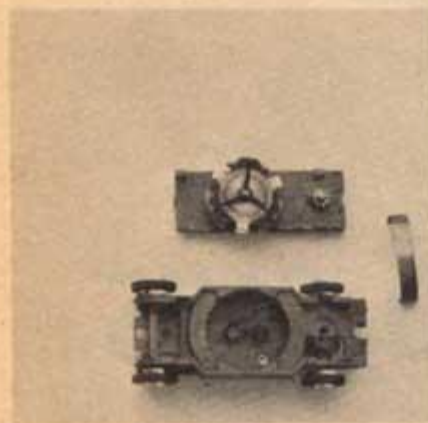
The D. C. (direct current) motors operate by passing electric current through carbon "brushes" into the winding of the armature which rotates between the poles of two magnets. Make sure that the brush pressure is not too much or too little (new cars usually have too much pressure) and that the brushes and commutators (against which the brushes exert pressure) are clean. In

some cases the magnets have to be re-magnetized. This is a simple and inexpensive operation. (By the way, did you know that excessive heat and vibration can knock magnetism out of some magnets?)

In Aurora cars, and others too, a drop of sewing machine oil on the bearings will do wonders if done about every 10 hours of operation. Atlas and Marx cars have motors that operate in the conventional axial position while Aurora's 3-pole motor is mounted in the center of the car with the shaft pointing up.

As the last step in the regular tune up operation, clean the pickup wires or strips with a solvent. A bit of sanding might be necessary to remove stubborn tarnish spots.

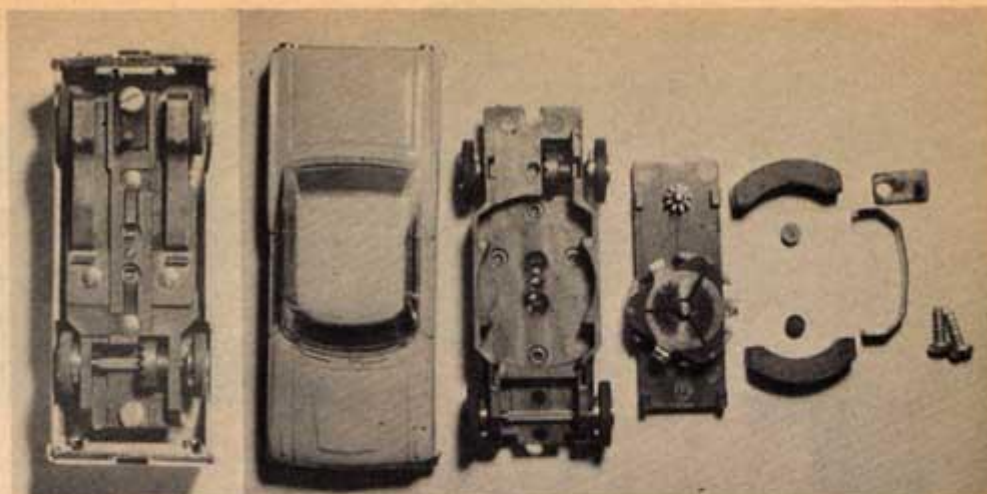
It is surprising how much the above simple steps will improve the performance of your HO cars. As we have stated



For the novice, after the two screws are removed from the bottom of Aurora's "Thunderjet" cars, major components can easily be cleaned.

before, the cars are actually over-powered and restoring the performance to the designed level will produce most satisfactory results. In most cases, wheel-spin can be reduced very easily. This gave rise to the thought that higher speeds could be achieved by gearing with a higher ratio. Gear changing is almost impossible due to the size of the cars and the method of their assembly. The easiest way to achieve the same effect is by going to larger tires.

A short length of rubber tubing can be slipped over the existing tire for maximum "slick" effect. Another very popular method is using rubber faucet washers which can be bought in any hardware store. Two of these washers can be mounted side by side on each wheel. Larger wheels will necessitate cutting out larger



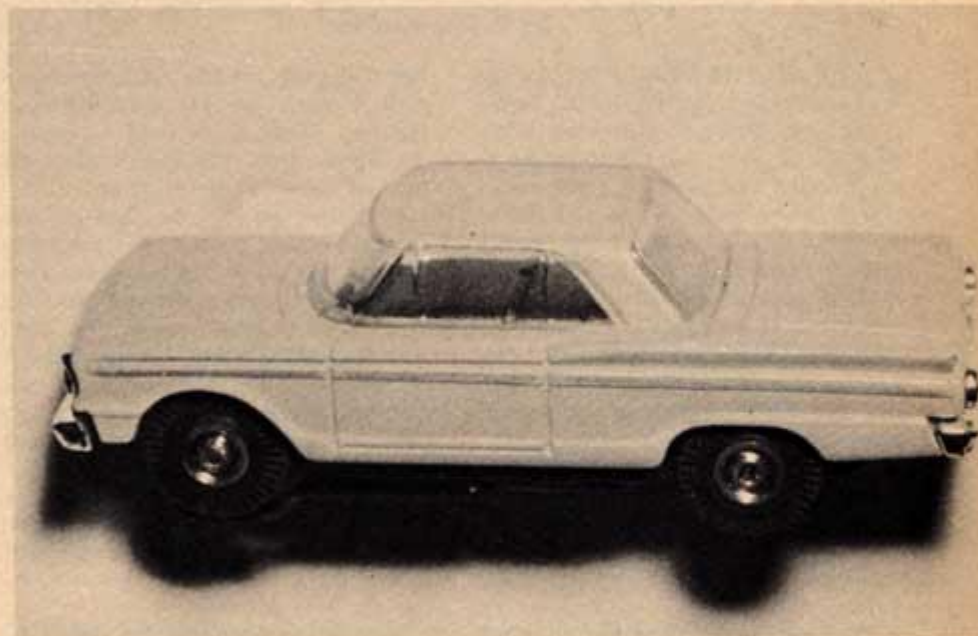
A more thorough cleaning can be performed by disassembly of all components. Care should be taken not to lose the minute parts.

wheel wells on the car bodies. On Aurora cars you should use #1568 hubs and axles. When the tire change is finished (or even with conventional tires) put the car on the track and run the motor. Hold the car in one hand while holding a sheet of sandpaper in the other. When the tire is pressed against the sandpaper, it will be trued up and roughened for efficient cornering.

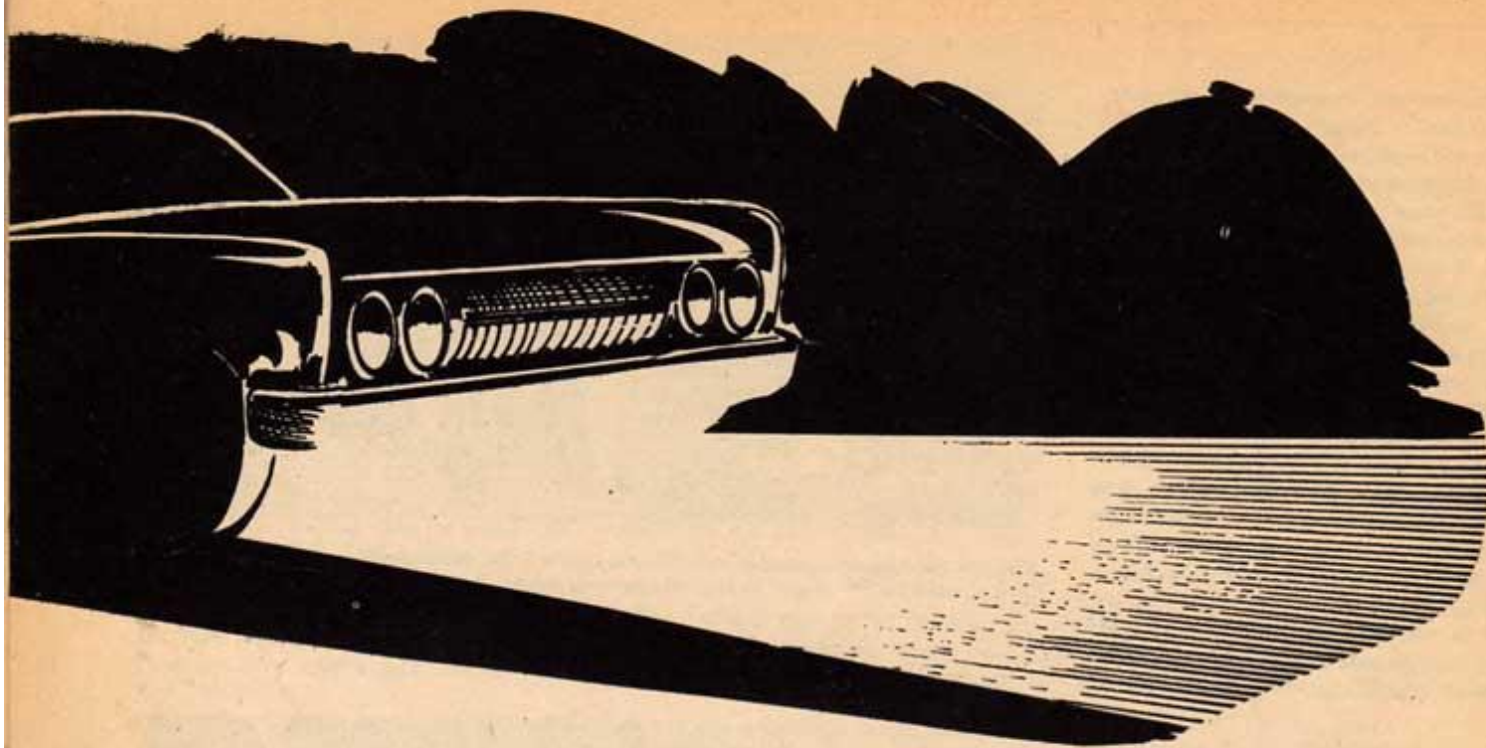
Again, due to the high power available from the tiny motors, the power-to-weight ratio permits addition of weights (putty, lead) to promote better adhesion to the track. Since the tires

are relatively hard and the cars are light, bouncing around will be lessened by this addition of weights. Lightening the cars will make them slide around. (Only in very high geared cars or underpowered cars can an improvement be achieved by lightening.) This applies to HO only, of course.

If you like to work on very small parts, using a magnifying glass if necessary, you'll enjoy tuning HO cars. If the car is kept in good shape the best tuning is still lots of driving practice. Remember, you'll be doing over 600 mph on those straights...



When your HO car is reassembled, check to see that all gears mesh properly before trying car on the track. An occasional blast with air hose at your local gas station should remove surface lint and dust between regular disassembly periods.



LIGHT UP YOUR HO CARS

by D. Summerfield

ONE OF THE BEST things you can do to give your model car layout a more realistic touch is to erect a few street lights over the roadway and to put working headlights on your cars.

Only items needed to put headlights on your car are: a small file, and a grain of wheat bulb. You should be able to find these bulbs in your nearest hobby shop carrying HO parts and accessories. This is a replacement bulb designed for street lights, signal lights and related equipment, and costs approximately fifteen cents.

First remove the body from the motor and chassis. You are now ready to remove the reed (fig. 1-A). After you have taken it from the chassis be sure you don't lose your push rod (fig. 1-B).

Now you are ready to remove the brushes (fig. 1-D). When you do, don't

lose that guide pin (fig. 1-C), you might need it when you put the thing back together. There is no need to remove the wheels from the chassis, they are just not shown in the illustration.

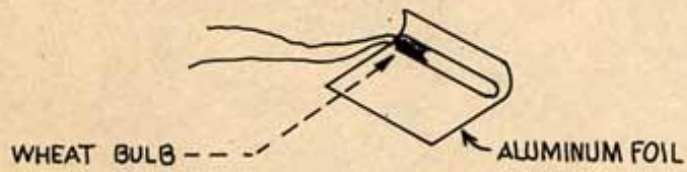
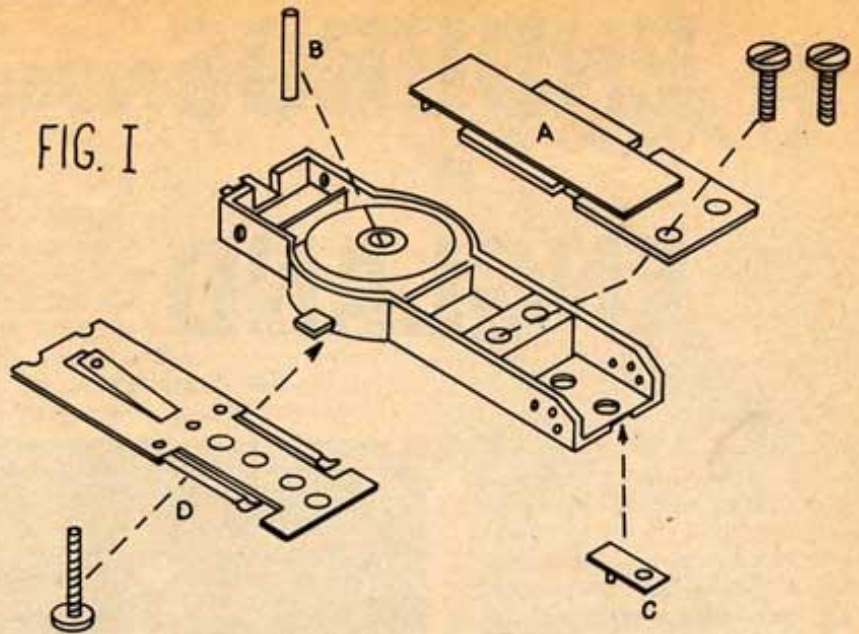
Now that you have lost half of your car from taking it apart, you are ready to make that cut in the chassis, as shown in fig. 2. In making the slit, the edge of the file is used because you don't want the slit any wider than the diameter of the bulb. The slit should be just deep enough for the reed (fig. 1-A) to tighten down tight and the tightened reed should hold the bulb just snug. Before you can put the bulb in that nice slit you have just cut, you will need to put 1 1/2 rounds of aluminum foil around the bulb (fig. 2). This is to direct the light out front.

Now this is where the fun comes in:

wiring up the whole mess. Wire G (fig. 3) is soldered to the coil contact terminal (fig. 3-K). You can solder wire G (fig. 3) to either the top or the bottom of the terminal. The second wire, wire J (fig. 3), goes to the chassis. We have put ours through the first hole in the chassis (fig. 3). If you put yours in the same place, you should strip the covering from the wire back as far as H, in fig. 3. The reason that wire J is not soldered to the chassis is that solder will not bond on the chassis.

Now reassemble and your car has lights! When you try her out, the light will come from between the body and chassis. The light cannot be seen in the sunlight because the bulb is under the body. But in a dim room you can see the lights quite well and in a dark room your HO car will look real.

FIG. I



FILE NOTCH IN CROSS MEMBER

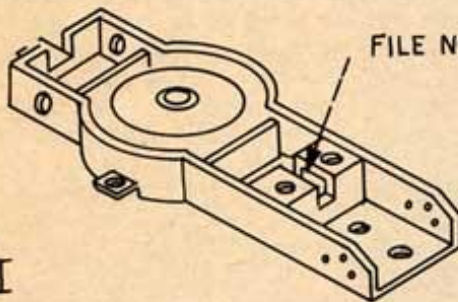
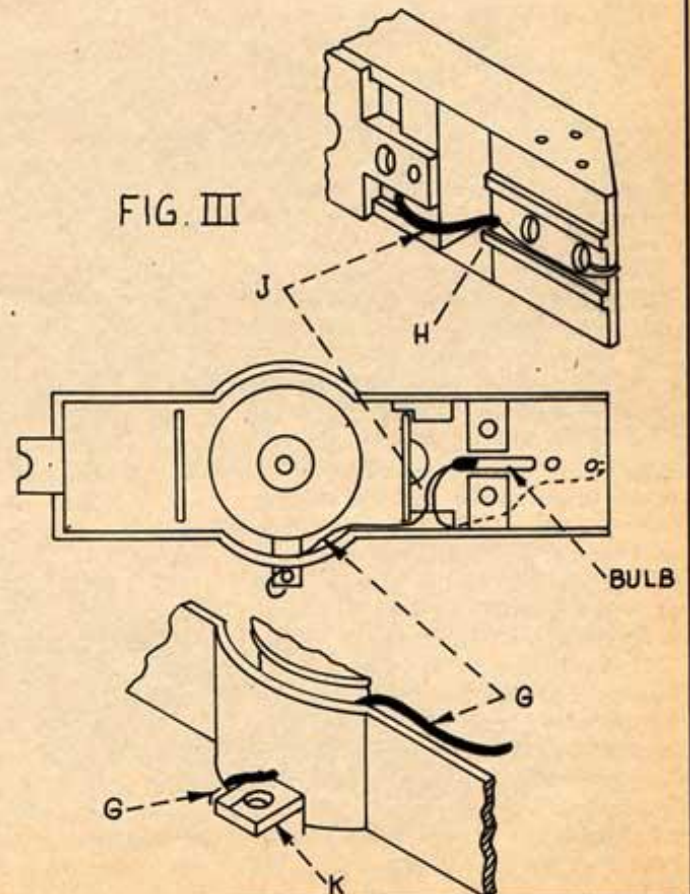


FIG. II

FIG. III



ENDUROS IN ENGLAND

by Duncan Laycock

The Ashton-under-Lyme Club recently held its First Open Grand Prix Meeting and made history by not entering for the event themselves. Always up to then, the home club had participated in Open events, and, knowing the track perfectly, had an overwhelming advantage over visiting entrants. It stands to reason that when you have raced on a track week in, week out, you are able to take liberties that a less knowledgeable entrant is unable to imitate. Thus in many cases, a home car that is not as fast (in a straight sprint) as a visitor, is able to be driven at a greater average speed in comparison and thereby knock out the visitor. To some extent the results of this have been seen, in that, entries have not crowded in.

The Ashton meeting saw a great difference. The home club announced that they would not be competing, but would devote the whole of their energies to marshalling and the success of the meeting. They did state that home club drivers would be appointed for any proxy cars entered if required. Entries for the meeting were extremely encouraging with a large Southern entry travelling up North — swayed to quite an extent by the knowledge that they would not be competing against drivers and cars that could circulate blindfold around the track. As a result there was an atmosphere that has never before been bettered, and the meeting was as big a financial success as could be hoped for.

We recently started on knock-out heats here for the Formula One Guards Trophy. Entry for this is restricted to models of the current Full Size Formula One, i. e. cars raced from 1961 onwards, and built to 1/32nd scale. The heats will be run off in the areas and the finals will probably be held in London at the end of the year.

I visited Aintree for their Annual Meeting, here they run two-2 hour races for teams of 3 cars each. All cars must be fitted with 2 working headlamps and 2 working tail lights — it is also desirable for them to be easily switched on and off. The drivers are not allowed to do more than 100 laps in any 200, so the

team has to be a good one to stand a chance. For the first and last 15 minute period, the track room lights are kept on but, for the intervening 1½ hours, the room lights are off and you race purely by the lights on your cars, plus certain strategically placed small bulbs on each bend and in the pit area. Marshalls are provided with shaded torches to enable them to replace any crashed cars and the Race Controller has a powerful beam available to pinpoint anyone attempting to pull a fast one. Each team has compulsory pit stops for (1) a plug change (2) a tire change and (3) refuelling (they had very fizzy lemonade — a pint to drink before you could continue racing). This is great fun and if you haven't tried it then I can give it my full recommendation. The team I was with didn't do anything startling — we were slot men racing on rail for the fun of it — we had a giant Yogi Bear balloon as our team manager so you can tell how we approached the possibility of landing in the winners circle.

The car I was driving was of normal heavy-weight construction with a Pittman motor and balsa body. It weighed more than the other two cars put together which were Echo bodies painted internally and filled with expanded polystyrene the Jap type motors being held in with clear tape. After 100 laps my car had

a rather severe trip into the bushes and I retired to attempt a repair on the front steering — the king pin had come completely away and I gave up any idea of a hasty repair; leaving my team mates to battle on. The previous best performance was 572 laps of the 96 foot long track. This year, one of the Aintree teams did 583 laps to set a new record.

We are now seeing the last of the rail-racers. In the past six weeks I have had letters informing me that Aintree, Southport and Newport have all bowed to the inevitable and are building slot tracks. This can only improve the sport over here as the rail-boys are a really keen lot who will soon adapt to the groove. So, as the old year goes on we can look ahead to more and better tracks. Perhaps we might also lift the curtain and look into the future: radio-control is bound to come on the scene and we will then be returning to the outdoors and, initially, vast spaces of concrete. But with the improvement in motors and radio-control alike, it will then follow that hill-climb and mid-plugging events will also be held. The model car builder of the future will be able to race his car at any of the full-size type events and, apart from not being in the driving seat himself, will in every other way have the enjoyment of "motoring in miniature."



SLOT RACING PRODUCT PROFILE: K & B

New items of special interest to slot racing fans pop with increasing regularity, in fact the onslaught of late can be compared to a deluge. All of this, quite naturally, leaves the fan at somewhat of a loss, for how can one select a racing chassis from nearly a hundred almost-identical items?

Because so many of our slot racing readers look to MCS for advice and help in this complicated matter, we often find ourselves in a dilemma. But occasionally one manufacturing firm comes to the fore with all the qualifications needed to have their products warrant special mention.

The K & B Manufacturing Corp., a subsidiary of Aurora Plastics, has gone into slot racing in a huge way. From their outsized plant in Downey, California, pours a never ending array of parts and accessories including, frames, wheels, tires, pickups, bearings, axles, steering units, and a host of similar products. Everything is neatly packaged and is supplied to dealers on a vast display board known as the Model-Rama Pit Stop — there's probably one at your dealer's now.

Taking a close peek at some of the goodies being offered, we find, first, a dragster frame designed for slotting down the quarter, that closely resembles the real thing. This is the #307 model, made of brass, fully assembled, then chromed for appearance. The frame comes with axle tubes, has a fixed wheelbase of 4-1/4 inches, and weighs a trifling two ounces. Motors recommended are Pittman's 85A or 65, though many others can be adapted with a few moments drilling and filing.

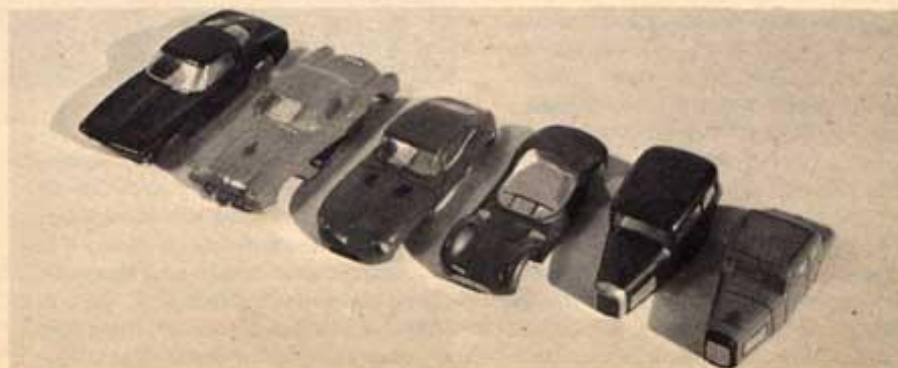
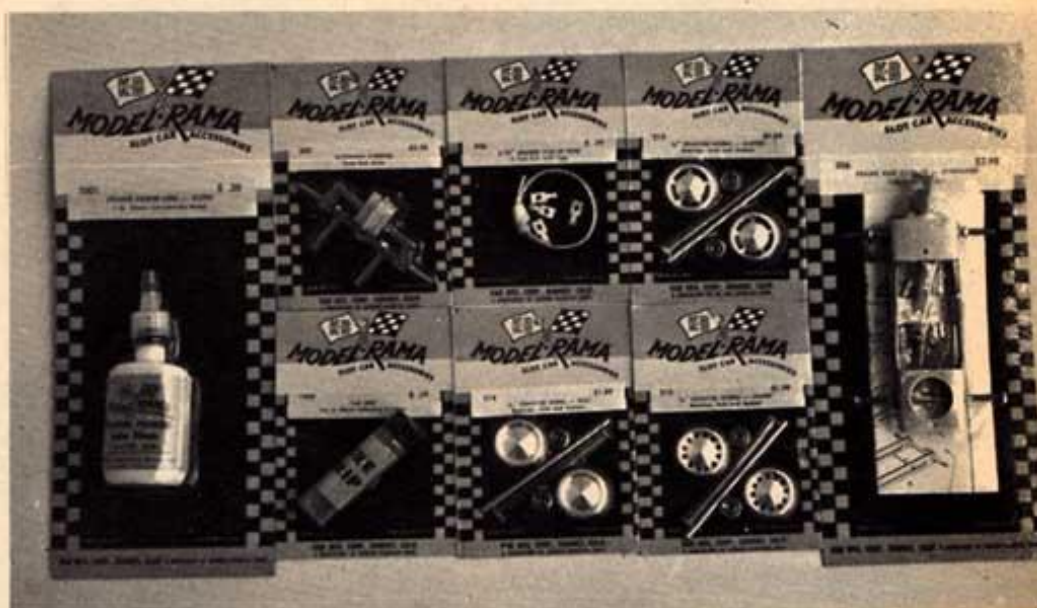
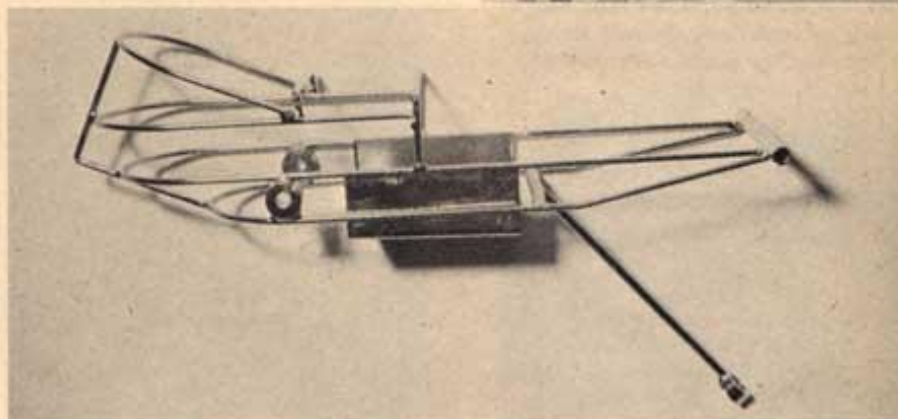
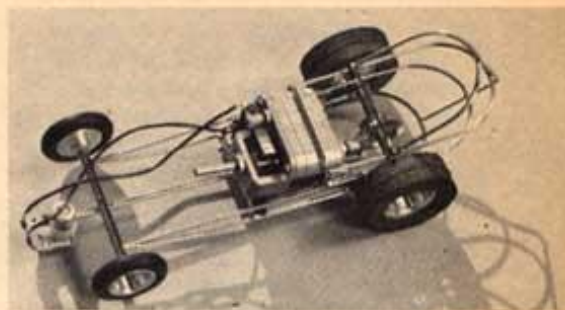
Speaking of dragsters, K & B has three sets of wheels for those wildly accelerating rail jobs where lightweight is of the utmost importance. These wheels are available as solid discs, slotted like mags, or spoked as in the popular cycle-type fronts most of the country's real chargers use. Each pair of wheels comes with an axle and a pair of ball bearings, the latter being affixed with a special Loc-tite sealant. Each type of wheel is available at the Pit Shop for under \$2.00.

Yet another long-awaited product is a pre-assembled Ackerman steering assembly which can be used with virtually any tube chassis. Not necessarily for straightaway drags, road racing cars can use this pre-assembled unit which will lend your car realism as the guide shoe "steers" the wheels through the tightest of bends.

For those of you with tire worries, K & B has slicks compounded of a special German formula, a spongy rubber.

Traction is terrific and they are lighter than similar tires of the same bulk. Three sizes will be found at your nearest Pit Shop, 1-1/8-inch diameter, 1-1/4 inch and 1-3/8ths inch.

This is but a random sampling of K & B's worthwhile offerings, so for a first-hand look at the complete range of slot parts (drag-type or road racing) spend a moment at your dealer's next time you are there.



New

SLOT RACING PRODUCTS

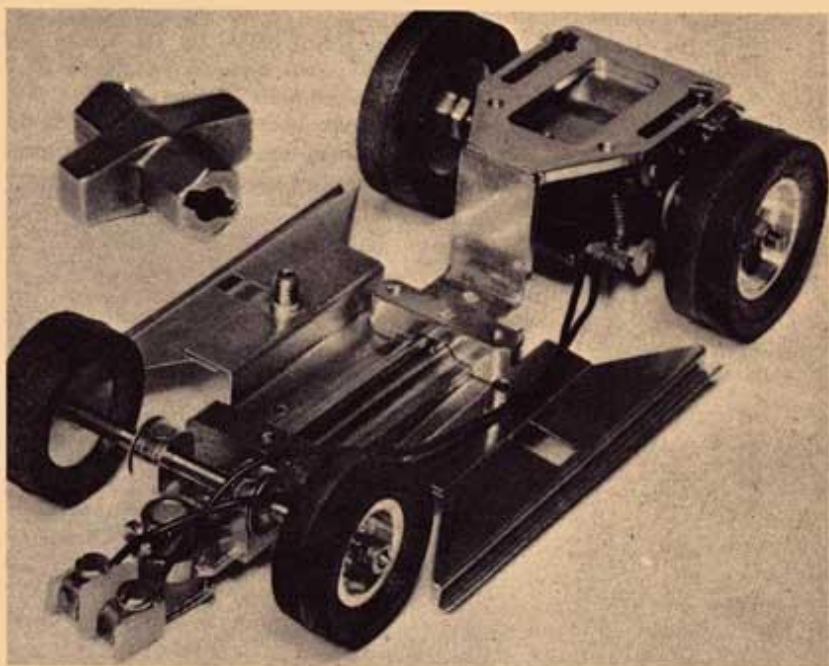
Kemtron's 8½" x 11" fully illustrated, 16 page catalog is now available, and it's chock full of parts for the scratch builders. Catalog shows sixteen different frames, each designed for a specific motor. There are six motors around which frames have been developed. Each motor has proven its popularity in slot racing. The catalog lists for 25c and is available through most dealers, or send to Kemtron, Slot Racing Division, P.O. Box 1952, Fresno, Calif.



Ever been asked what scale it is? Ever been stumped on how long to make it? This circular scale calculator tells you how many feet and inches a model should be. It breaks down four of the most popular modeling scales — 1/30, 1/32, 1/24, and 1/25. Measurements on models can be carefully checked against the big car or figures. Save hours and hours of computing. Comes complete with a clear plastic case. Price \$1.00 postpaid from, Auto World, Box 961-M8, Scranton, Pa.

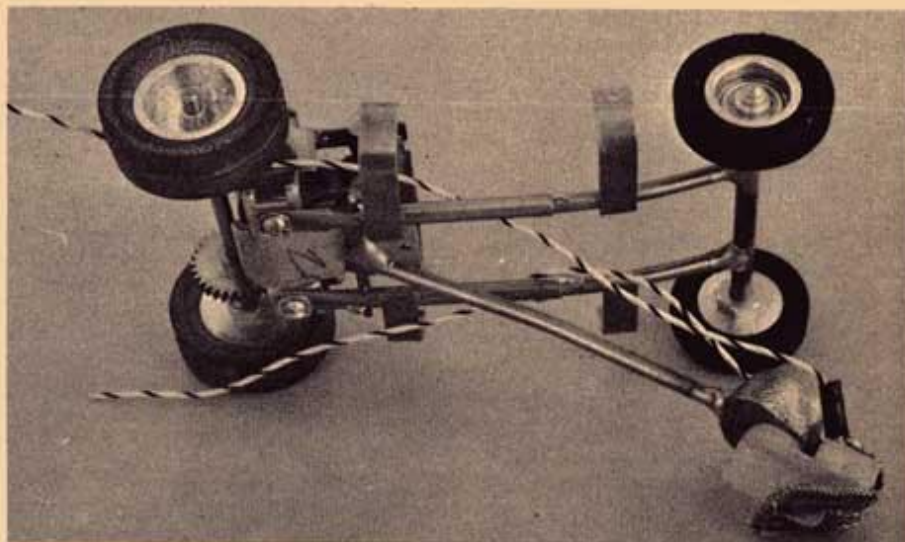


Strombecker has introduced six official 1/32 scale slot racing car shells designed for advanced hobbyists. Cars include the BRM, XK-E Jaguar, D-Jaguar, Ferrari Berlinetta, Ferrari Testa Rosa and Maserati. Constructed of rugged hi-impact polystyrene, shells are compatible with all Strombecker products. Selling for \$1.29, each kit includes: car body, windows or windshields, motor shroud, driver's head, tail pipes, headlight, customizing decals and complete instructions for slot racing adaptation.



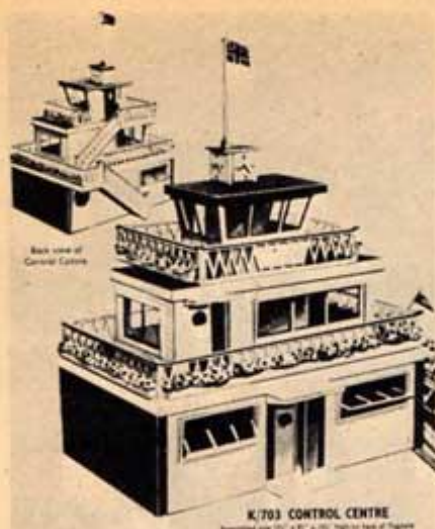
This Dyna-Mite "Rolling Frame" (for Pittman 704A-705 motors) has everything for the expert in one package. Included are such extras as body mounts, weights and "knock-off" nut wrench.

Purchased separately this merchandise would approximate \$7.00, now offered, partially assembled, for \$5.95. Write Dynamic Model Products, Dept. MCS, 13755 Saticoy St., Van Nuys, Calif., specify catalog No. 669.



A swing arm pickup on a telescoping chassis is featured on this new slot car now being introduced by Fred's Model Engineering, 826 East First St., Santa Ana, Calif. Complete car, with any 1/24 scale clear plastic body and Pittman 705 motor, in a clear plastic box, sells for \$12.95. Chassis is also available without the body for \$8.95.

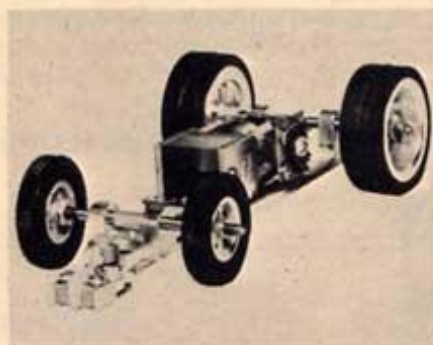




No road course would be considered complete without a Control Center and Scalextric has just the answer. This 10½" x 8¾" x 10½" high to base of flagpole control center is now available from most hobby shops for \$6.75, or from Polk's Hobbies, Inc., Dept. MCT, 314 Fifth Ave., New York 1, N.Y.



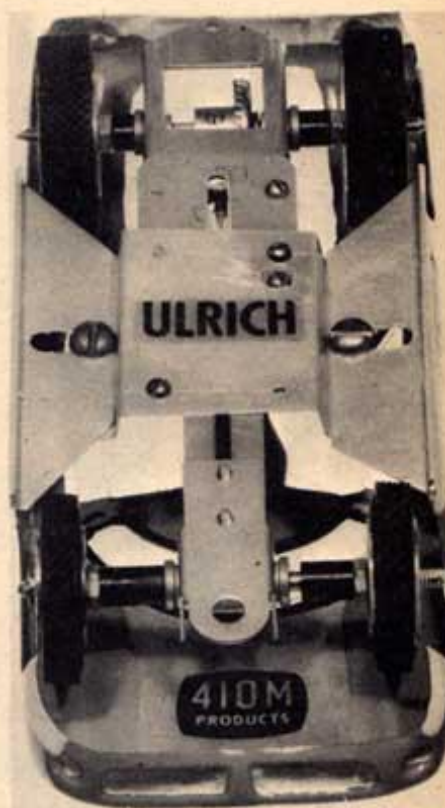
For the slot racer on a budget, Pyro Plastics Corp., has recently introduced a series of 1/32 scale classic Ford stock cars. Included in the series are: a '32 Ford "B" Roadster, a '36 Roadster, a '40 Ford Coupe and a '49 Ford Tudor. All kits include clear plastic parts, customizing and racing decals.



Latest additions to Dynamic Models Line-up of slot racing products include the Drag slick wheel and tire. The tires are of the soft sponge "German Formula" for maximum performance. Taped for 5-40 axle threads, these "Mag" design tires and wheels sell for \$1.49/pr. Replacement slick tire for 609 wheel is .59c/pr. Dynamic's new guide-flag is said to be the lowest priced on the market yet contains many new and proven features. Molded of plastic nylon for strength, this flag comes complete with braid and a set-screw retainer ready for use.

A new concept of authentic detail and many "firsts" for model cars are the highlights of these all new Jo-Han '64 kits. The models, in various "Stock," "Racing" and "Custom" versions, have such super detailing features as "steerable wheels," "opening trunk," "side windows," "Drag Race Slick tires," new racing and custom parts. Now available are: the '64 Cadillac DeVille, Dodge Ramcharger, Rambler American, Plymouth Golden Commando and Chrysler 300. All kits are available in hardtops and convertibles. Retail price is \$1.49.

A brand new catalog and bargain bulletin is now being offered free to any model builder by America's Hobby Center. The 64 page pocket book edition pictures and describes thousands of popular table-top car racing items. Free bonus coupons are included throughout the catalog that offer free merchandise with any order from the firm. Special sale and discount prices are offered on a wide variety of tools as well as on HO and 1/32nd scale model motoring supplies. Any reader of this magazine can get a free copy of the new "AHC Bargain Bulletin No. MCT-RV" by sending a 5c unused postage stamp to cover the cost of mailing. Write to Dept. RB, America's Hobby Center, 146 West 22nd Street, New York, N.Y. 10011.



Ulrich's new Positive Body Mount uses stamped lightweight aluminum channels that are easily fastened to the lower edges of the body between the wheel cutouts. These pieces actually strengthen the body and add a metallic trim to the car that may be left plain or painted. These slotted channels are held to the chassis by two large screws in an additional stamping fastened to the chassis. The screws are under the car and are not visible when running. By loosening the screws a turn or two, the body mounts may be slipped out and the chassis removed. Two or more bodies may be set up to the same chassis permitting a "hot" motor to be run in several different events by merely changing the body. Complete mount with illustrated instructions sell for .59c.



Take the guesswork out of sectioning, chopping, and remodeling your bodies. This kit was developed by the country's leading modelers, with simple instructions for you to follow. The kit includes sectioning tape in 3", 4", 5" and 6" widths in 1/25th scale. Plenty for dozens of models, and guaranteed to give you straight cuts and a professional looking section job right from the start. Nothing like it ever before. Price \$1.98 postpaid from: Auto World, Box 961-M8, Scranton, Pa.



SLOT RACER'S

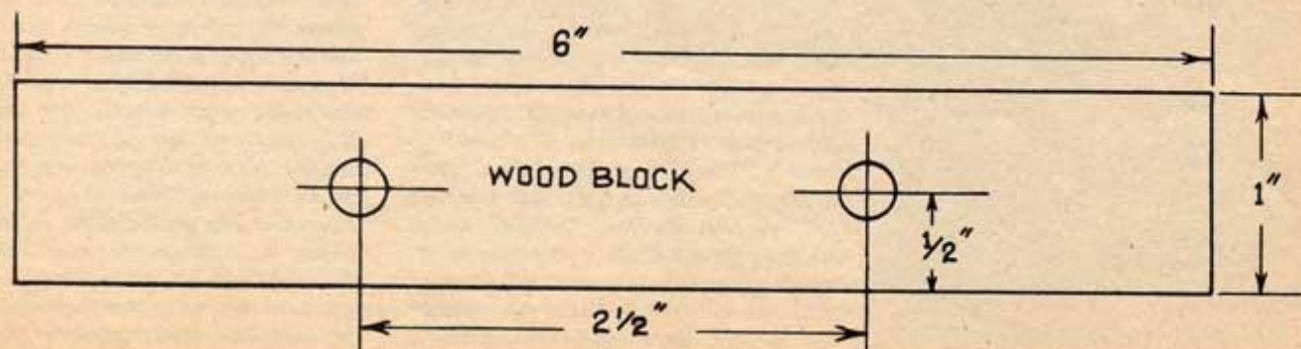
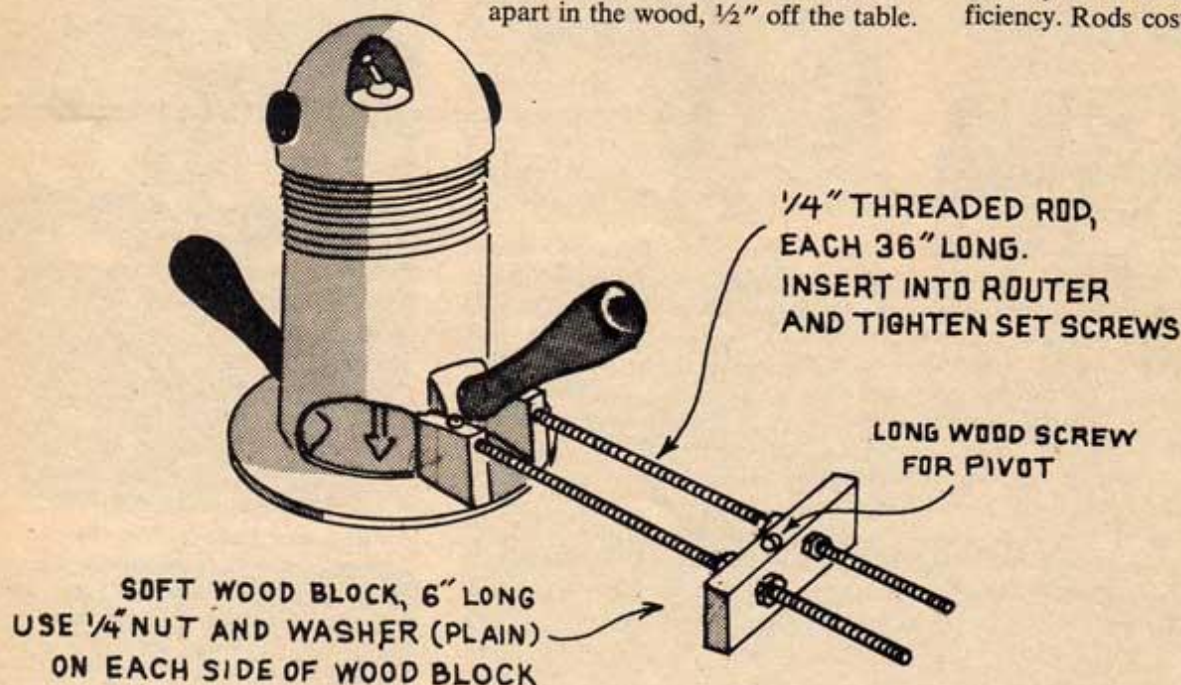
Work Shop

NEW IDEAS IN RACING MODIFICATIONS

ADVANCED ADJUSTABLE ROUTER TRAMMEL POINT

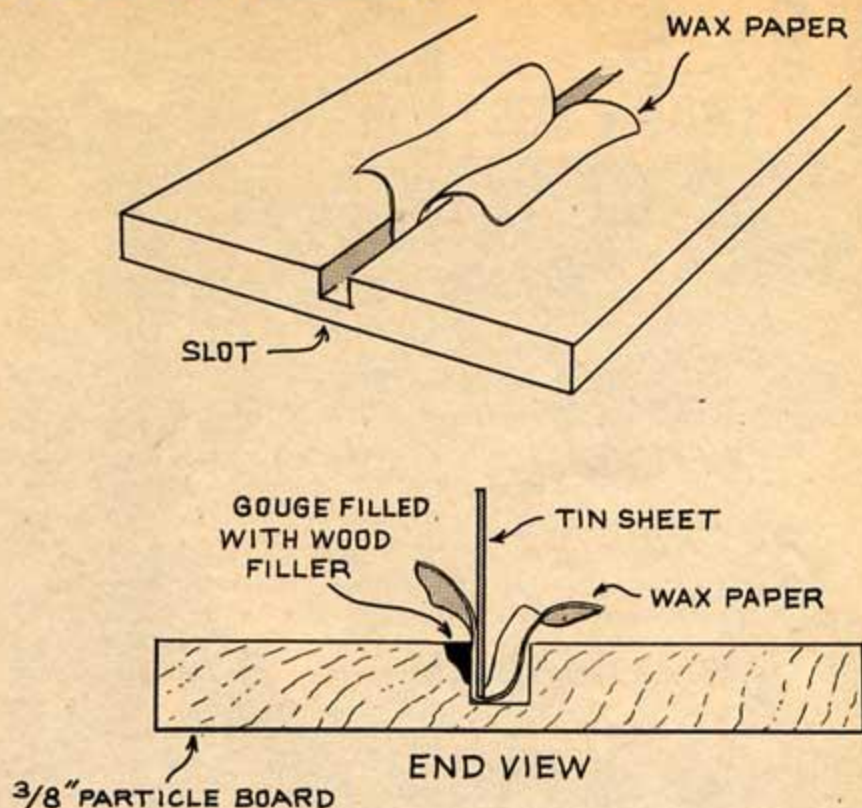
Here is the ideal trammel point set-up for cutting any curve, from the smallest to the b-i-g sweepers. Purchase two pieces of 36" length, $\frac{1}{4}$ " diameter threaded bolt from Sears, or equivalent. Also buy 4, $\frac{1}{4}$ " washers (plain) and 4, $\frac{1}{4}$ " nuts. Insert the rods into the router in the holes provided for a trammel point. Tighten down the set screws. Now, cut a 6" x 1" x 1" piece of soft wood. Drill 2, $\frac{1}{4}$ " holes, $2\frac{1}{2}$ " apart in the wood, $\frac{1}{2}$ " off the table.

Now, through the top insert a long woodscrew for a pivot. This must be placed midway between the two quarter inch holes, which is $1\frac{1}{4}$ " from either hole. Run the bolts through the holes and slide the rods back and forth to wherever you want the router bit to be. Then tighten down the nuts on both sides of the block of wood. You can cut a slot at any radius quickly with this layout with real speed and efficiency. Rods cost about 35 cents.



EASY SLOT-REPAIRING

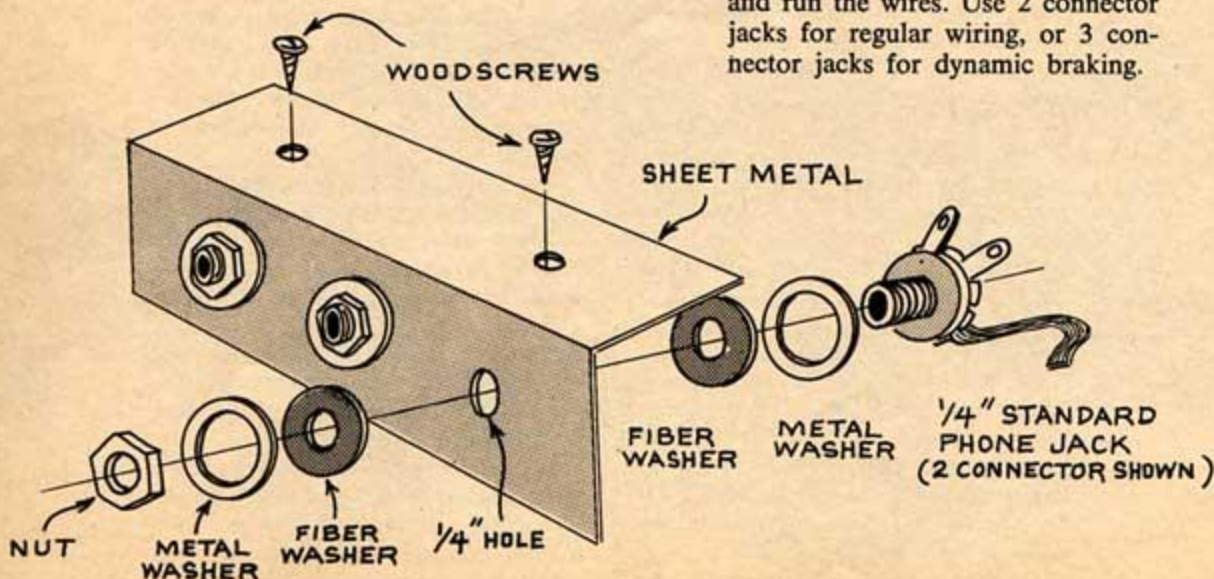
I have yet to see anyone build a slot track without putting a good gouge in the surface of the track when using a router. Here is an easy way to fix it. Insert a piece of wax paper into the slot as shown. Then slip a square piece of tin into the slot and press it up against the wall of the slot firmly. Now, using a tube of Weldwood plastic wood, squeeze the wood filler into the gouge and pack it down. Let enough of the plastic wood "build up" above the surface of the track so when you sand it down you will have a level track surface and not a small depression. After the plastic wood has been squeezed into the cavity, remove the tin plate and let the plastic wood dry with the wax paper in position. When the plastic filler dries just peel the wax paper out of the slot and look with satisfaction at a perfectly vertical and even slot wall.

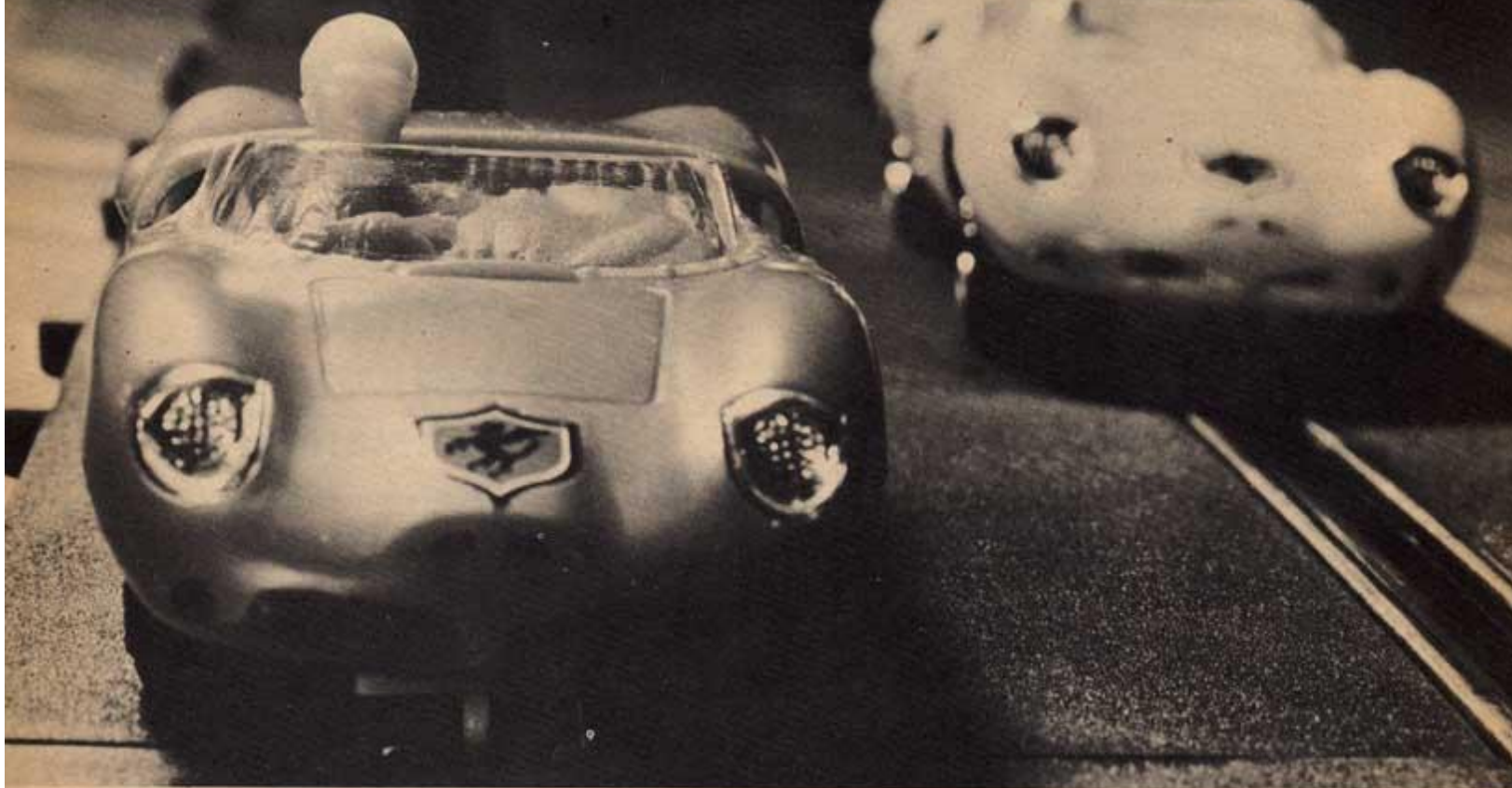


ORGANIZE YOUR WIRING

Using a jack box and standard $\frac{1}{4}$ " phone jacks is the easiest and neatest way to organize your wiring. Make your own jack box out of sheet metal, folded as shown, and with enough holes equally spaced to accept the jacks.

The jack box can be about 6" long and $2\frac{1}{2}$ " x $2\frac{1}{2}$ ". Mount it anywhere on your table you wish and run the wires. Use 2 connector jacks for regular wiring, or 3 connector jacks for dynamic braking.





ELDON

Our road test cars this month are those supplied with Eldon's Selectronic Road Race Set, a Ferrari Testa Rosa and a T-Bird. One of the cars, the 'Bird, was equipped with a diode so the two may be operated on a single track. Looking at the cars before testing we found the motor to be the familiar Japanese Mabuchi. The plastic frame is interesting in that it is adjustable, by virtue of telescoping, to fit the various wheelbases that Eldon's cars require. Thus, the unit can be swapped back and forth between cars, or put into extra cost stock car bodies that Eldon provides.

The rear end is fitted with a single crown (axle) gear with two sets of teeth back to back. Gear ratio is altered by simply snapping the rear axle out of the chassis, and replacing it with the opposite gear meshed.

The bodies are lacking in detail, and the wheels are 'way too large which

raises the CG far above what it should actually be. The cars are not advertised as being any particular scale, and the Ferrari works out to be little larger than 1/32nd and the 'Bird smaller. Thus, the cars are not scaled proportionately to each other.

The cars each come equipped with steel weights, though the weights are different sizes and shapes between the models. It appears that these weights would be unnecessary if the loose rear axle had a better fit in the chassis. The guide shoe is of the blade type and uses braided wipers for pickup. The wheels are nylon and tires are a semi-hard composition rubber.

In preliminary testing we found that the over-sized wheels and tires gave the cars a high roll center. The weights within the cars are also positioned high within the bodies, all of which creates two-wheeling on turns without the more



desirable drifting with all four wheels firmly planted.

Testing the cars as each was taken from the box, we found our 'Bird the faster of the two. It was geared lower than the Ferrari and had the longer wheelbase. We don't know if it is common, but both our cars had noticeable front axle drag, created by the pickup wires contacting the axle, but this was easily eliminated.

None of the eight tires were found to be truly round, so all had to be sanded to concentricity. Too, the large stock tires do not permit the guide to drop deeply into the slot, thus de-slotting is very common as the two-wheeling tendency simply lifts the blade out of the groove. It would seem that smaller tires would help considerably but the Eldon wheels do not lend themselves to the adaptation of tires of another make — except for Scalextric tires, but as they must be stretched to fit over the Eldon wheels the same diameter results.

For the second test the frame was removed from the body and the steel weight relocated to get it lower. (It could not be eliminated entirely due to the loose axle fit noted earlier.) We moved the weight to the underside of the frame, taping it in place as near the car's centerline as possible. This helped the car's handling considerably; it no longer wanted to tip into the turns and, as a result, lap times dropped. The change was made in both cars, but the 'Bird remained the quicker of the two. One reason could be that the 'Bird's weight is the heavier of the two and more effect is gained in lowering the



For slot racers on a limited budget, Eldon offers everything needed for a sound starter set in 1/32 scale.

center of gravity. From this testing point on, we further modified only the 'Bird. It seemed pointless to make identical alterations to both cars.

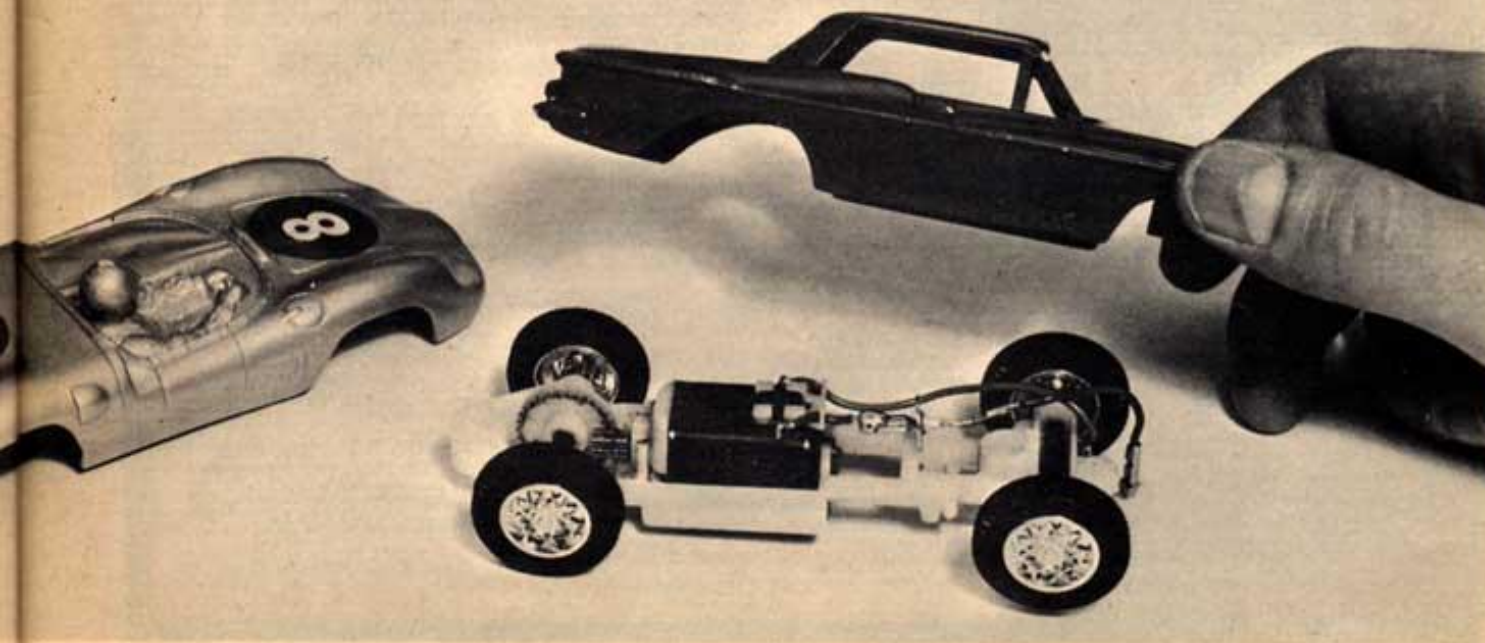
Our next modification, in an attempt to improve lap times, was to eliminate the weight altogether, which of course meant substitution of the standard rear axle and its inherent looseness which caused hopping. The stock axle is knurled so we could not install normal bushings, plus the fact that the area of axle play would have permitted only the thinnest of wall thickness. We found the axle, where it rotates in the frame, to be under 1/8th of an inch, so we substituted a 1/8th-inch axle and had a good fit without binding. As the splined Eldon crown gear will not fit a standard-type axle, we had to substitute a 32-tooth steel

crown gear with set screw. Meshing was found to be good, in fact, improved.

Then we added aluminum wheels — scale 15-inchers — and soft compound tires. Further testing of the car at this point brought about a considerable drop in lap times and the car was far easier to handle. Too, lap times were much more consistent. The elimination of the weight lightened the car making it faster, and the substitution of the new axle did away with the axle bounce and resultant wheel hop.

Our problems were now concentrated at the front end of the car. We cut the front tire diameter down from one inch to about 15/16ths of an inch. This allowed us to accelerate sooner out of the turns as the guide was now deeper into the slot.

By removing only two screws, the body of a Testa Rosa Ferrari sports car can be taken from its chassis and a stock car body substituted for it. The Testa Rosas are standard equipment in the Selectronic set, stock cars may be purchased as accessories.

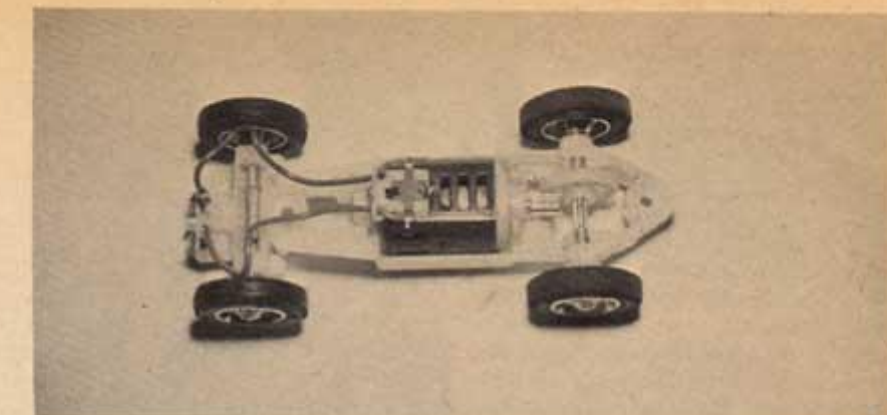


At this point we stopped our testing. We felt that any additional expenditures for parts would not be sufficiently offset. The biggest improvement that could have been made would have been the substitution of a more powerful motor, which is not one of the stages of our usual testing procedures. As it was, the car could be driven virtually flat out, and component changes (other than a bigger motor) would not have helped our lap times.

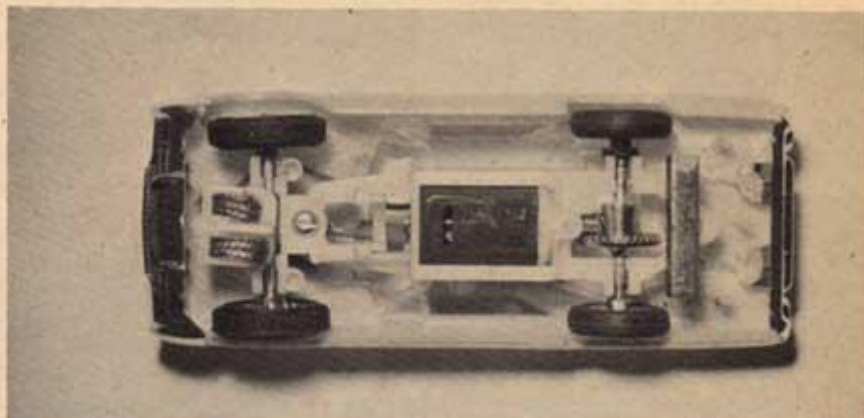
Comparing the results of the three tests, we see that the absolutely stock Eldon car would trail the model with the most modification by 2/3rds of a lap in a ten lap race.

The overall gain in performance of a test car should be looked at in either of two ways. If times do not increase markedly, then the car in stock state is a good product to which very little improvement can be made; or, it is underpowered (as is the Eldon car) and full benefit is not gained from the changes made. Remember, however, with these Eldon cars that while times did not improve to a startling degree, that handling and the inherent de-slotting tendency was considerably bettered by our alterations.

In glancing through the list of cars that yet remain to be tested, we find many that would fall into the underpowered category. Also, there are many sets that require too much pre-testing modification before they can be operated on regulation, commercial-type tracks. (Such as those with individualistic guide shoes that cannot be used on standard



Looking down on the stock Eldon chassis. The front end is adjustable so chassis will fit several bodies. Rear axle flips for ratio change.



Bottomside of Eldon's 'Bird'. Test car has been equipped with modified rear axle/wheel/tire/gear assembly. Relocated weight as used in test.

slot lane tracks.) Thus, we will not be testing any that fall into either of these groups, so unless new car sets turn up during the next model year, we have only

a couple of cars to go before we conclude this series of tests. The remaining makes are Varney and Scalextric — and Varney is up for testing next month.



TRACK TEST DATA:



ELDON Thunderbird and Ferrari

	FERRARI	THUNDERBIRD
TIRE DIA.	1"	1"
GEAR RATIO	3 1/2 — 1	4 — 1
WHEELBASE	2-29/32"	3-1/32"
TOTAL CAR WEIGHT	3-1/8 OZ.	3-1/4 OZ.
LAP TIMES (average of five lap runs)		
STOCK	9.22 SECS PER LAP	8.87 SECS PER LAP
WITH TIRES TRUED AND WEIGHT BELOW FRAME	9.16 " " "	8.76 " " "
REAR AXLE REPLACEMENT, WEIGHT REMOVED, ETC.		8.44 " " "
TRUED, SMALLER FRONT TIRES*		8.21 " " "

Parts used for modifications
(all Auto Hobbies components)

104 axle w/nuts	\$0.25 ea.
306 wheels	.49 pr.
401 tires	.30 pr.
511 gear	.45 ea.

Total \$1.49

*In the tests we used aluminum wheels with 15/16" dia. tires but the stock units trimmed down to this smaller diameter will work equally well and save the expense of this alteration.

SLOT RACING CLUB & TRACK DIRECTORY

Model Car Science, and our companion publication, Model Car & Track, are compiling a list of table top racing tracks for those readers who may not know of a track in their home area. Included in this listing are both commercial tracks as well as club layouts that may be situated in a member's garage or basement. If you are a track owner, send us your name and address and briefly describe your course. That information will be included free in this ever-expanding column as soon as possible.

California

Model-Rama Raceway, 826 E. 1st St., Santa Ana, Calif., Phone 547-1142.

Tandem Hobby Shop, 13862 1/2 Chase St., Panorama City, Calif., Phone: EM 4-9992.

Bob's Hobbies-Crafts, 2226 E. 4th St., Long Beach 14, Calif., Phone: GE 9-6320.

Babcock Research & Development, 836 S. La Brea, Inglewood, Calif. Hours: 4 to 10 p.m. every day.

Rustic Oak Slot Racing, Hiway 9, Felton, Calif.

Oxwood Raceway, 6015 Woodman Ave., Van Nuys, Calif.

South Bay Raceways, 1213 Hermosa Ave., Hermosa Beach, Calif. Phone 367-2811

International Hobbies, 1809 Lincoln Blvd., Venice.

International Hobbies, 2302 1/2 Artesia Blvd., Redondo Beach, Calif.

Le Mans Hobbies, 3909 Sepulveda Blvd., Culver City.

Ventura Hobbies, 11746 Ventura Blvd., Studio City, Calif. Phone 769-9828

Alamo Raceway, J & R Variety Store, 5 Market Plaza, Alamo, Calif. Phone: Area 415-837-9906

"The Sleepers," Rt. 4, Box 403, Lodi, Calif.

Marina Raceway, 12001 Venice Blvd., Los Angeles 66, California

5th Ave. Hobby Shop, 2505 W. Manchester, Inglewood

R. E. Owens, 666 North Tustin, Orange, California

Pico Drag Center, 9316 E. Whittier Blvd., Pico Rivera, California

Ecurie Concours Model Car Racing Club, c/o Norman O. Davis, 4522 Madoc Way, San Jose, California

Pioneer Raceway, 13331 Telegraph Rd., Whittier, Calif.

Hobby Shop, 145 S. Pacific Coast Hwy., Redondo Beach, Calif.

Howard's Hobby House, 1624 Contra Costa Blvd., Pleasant Hill

HobbyRama, 826 E. 1st St., Santa Ana, Calif., Phone: 547-1142

Don Thompson's Hobby Raceways, 9630 Las Tunas, Temple City, Calif.

Golden Gate Model Road Racing Club, c/o Ken Reilly, 326 Virginia Ave., San Francisco, Calif.

Antelope Valley Hobby Center, 45013 N. Yucca Ave., Lancaster, Calif.

Anaheim Miniature Auto Racing Ass'n., 1158 N. Catalpa, Anaheim, Calif.

Western Model Raceways, 13204 S. Western Ave., Gardena, Calif.

Howard's Hobby House, 1624 Contra Costa Blvd., Pleasant Hill, Calif.

Telco, Inc., 4718 E. Home Ave., Fresno, Calif.

Fresno Hobby, 3033 Tulare St., Fresno, Calif.

So. San Joaquin Slot Racing Ass'n., 4022 University Ave., Bakersfield, Calif.

Colorado

Aurora High Model Club, c/o Stan Reeves, 10th and Newark, Aurora 8, Colo.

Rocky Mountain Miniature Racing Association Model Hobby Shop, 38th and Federal Blvd., Denver

Scale Model Engineering Club, Science Dept., Euclid Jr. High School, Littleton (Denver South) Colorado

Connecticut

House of Hobbies, 22 Nashawena Ave., West Haven, Connecticut. Phone: 934-5357. Racing every Monday, Wednesday evenings.

Illinois

Chuck Heckler, 536 Stange Ave., Springfield, Illinois.

East Coventry Race Course, 1328 Madison St., Evanston, Illinois

Aurora Cycle & Hobby Center, 68 S. Broadway, Aurora, Ill. Racing every Monday, Friday evenings, and Saturday at 2 p.m.

Iowa

Sunnyside Racing Association, 2301 Gear, Burlington

Marshall Miniature Speedway Association, 13 North 1st Street, Marshalltown, Iowa

Bob Diekmann (GP Road Racing Track), 1221 Commercial St., Algona, Iowa

Storm Lake Road Runners, Storm Lake, Iowa

Kansas

"Sainty Ram Rodders," Located basement of First Methodist Church, St. Francis, Kans. Racing every Sunday, 3 p.m.

Slot Hawks, c/o Herbert Williams, 2009 Clare Rd., Lawrence, Kansas

Pitt Strippers, 208 E. 23rd St., Pittsburgh, Kan.

Louisiana

The Hobby Guide, 4513 Freret St., New Orleans 15, La. Phone: TW 5-4607. Daily except Sunday, 9:30 to 5:30 p.m.

Massachusetts

Witch City Model Car Club, c/o Roger Demers, 18 Silver St., Salem, Mass.

Mini-Racers, c/o Herb Phinney, 52 Thistle St., W. Lynn, Mass.

Michigan

Ford Auto Speedway Track, home of Wm. B. Shenk, Jr., 381 Brentwood Dr., Inkster, Mich. Races run on Friday & Saturday nights, 8-10 p.m.

Top Track Hobby Shop, 6871 Middlebelt, Gardena City,

Seaway Speedway, 2700 Fort St., Trenton, Mich.

Minnesota

The Dukes of Oil, c/o James L. Mack, Pres., 1009 W. 13th St., Wilmar, Minn.

Missouri

The Ecurie Liberty Club, Mc Bowl Building, 906 West Hiway 10, Liberty, Missouri Phone: GI 3-3614

Dunn's Den, 7114 Prospect, Kansas City 32, Mo. Phone: JA 3-1330. Races every Tues. 8 p.m. Tracks available for use 9 a.m. to 9 p.m.

Keencraft Hobby Center, 5300 E. 24th St., Kansas City

New Hampshire

Charleston Model Road Racing Club, Box 296, Charleston, N.H.

New Jersey

Richard Erickson, 517 80th St., North Bergen

Totowa Hobby Shop, 388 Union Avenue, Paterson 2,

Instant Speedway, 649 Laurel Ave., Hazlet, N.J.

Tiny Tots, Inc., 236 W. Front St., Plainfield, N.J.

Colonia Speedways, 70 Berkeley, Colonia, N.J. NO track specialists. Mail-ins wanted.

New York

Hobby Haven, 688 Winton Rd., N. Rochester 9, N.Y.

Frank's Speedway, 4263 Cameron Drive, Williamsville 21, N.Y.

North Carolina

Catamba Auto Modeler's Slot Division, 516 Belmont Rd., Belmont, North Carolina

Tommy Poe, 4801 Hardwick Rd., Charlotte, N.C.

Ohio

Jerry Osborne, 6127 Hammel Ave., Cincinnati 37, Ohio

An HO scale road racing course covering 1/4 of a mile (scale). Time: every Friday night & Saturday afternoons.

Lakewood Scale Model Raceways, 17114 Detroit Ave., Cleveland, Ohio

Carroll Course, 2729 Cypress Way, Cincinnati 12, Ohio. 3-lane road course to NASRR standards.

Forest City 1/25thers, c/o Ron Smith, 3344 Linden Rd., Rocky River 16, Ohio

Oklahoma

Speedcraft Hobby Center, 700 N. Main St., Owasso

Oregon

Northwest Scale Racing Association, 1728 N.E. 40th St., Portland, Ore.

Western Scale Speedway Ass'n. 480 Minnesota St., Lebanon, Ore.

Pennsylvania

SYC Racing Club, 615 Clay Ave., Scranton 10, Pa. Racing Fri. & Sat. nights during winter 7-9 p.m. From 12 noon on Saturdays.

Carmichaels Slot Car Racing Ass'n., 212 Pine St., Carmichaels, Penna.

South Carolina

Model Auto Racing Association of Columbia, 1801 Green St., Columbia, S.C.

Tennessee

Hobbycraft Hobby Shop, 4003 Hillsboro Rd., Nashville 12, Tenn. HO 4-lane track, plans for 1/32 & 1/24 to be built later.

Texas

Ohmco Raceway, 837 W. Davis, Dallas 8, Texas Phone: WH 2-3054

S & L Raceway, c/o James Smith, 717 So. 11th, Temple, Tex.

C. K. Beck Co., 1420 N. McCullough Ave., San Antonio, Texas

Washington

Parkers, Burien Hobby Center, 619 S.W. 152nd, Seattle

Empire Hobbies & Crafts, 6740 Empire Way South, Seattle, Wash.

Wisconsin

Setra (Scale Electric Table Top Assoc.) 2024 N. 48th St., Milwaukee, Wis., 53208. Race 1st & 3rd Monday every month, alternating on 4 tracks, on 1/32 scale courses.

Road Angel Auto Club, 1056 Elmore St., Green Bay, Wisconsin, Phone 435-8317

Canada

Conoda

Maxport Slot Car Racing Club, 5 Selimar Rd., Weston Ontario, Canada

Rigby's Variety Shop, 3847 Bloor St., West, Islington, Ontario.

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TRACK TALK

BY BILL SIPPEL

It is difficult to write a column such as this each month and reach everyone. Consider the combinations; beginners, home set owners, club and hobby shop racers. Also add to this people who race kit cars, who modify kit cars, who build from components, and who build their own. To go further, there is road, drag, and oval racing, and others. This month I am going to spend a little time on drags and on oval and 1/24th scales. Those of you who say double ugh, catch my column next month and proceed to the next page of this issue.

DRAGS . . . Everything runs in cycles and this hobby is no different. Electric drags are now seven years old. We are seeing a basic return to the rules established at the start and that isn't bad. As to tracks, in the early days there were no retail car shops so sets were in basements and garages. Therefore, it was common, for the sake of space, to use short strips, such as 1/8 mile or 1/3 of a scale 1/4 mile. As to car rules they were quite simple. Cars were to a given scale and had to look like a car with the electric motor enclosed.

Then-WHAM!!! the trend of late '62 and last year. First, a few cheaters and then you have to follow suit to compete. Scale was out the window and any resemblance to looking like a car was purely accidental. Finally as fewer and fewer people came around and winners could be picked from a handful of people, little light bulbs began forming over people's heads. They blinked out the fact that the drags were dying. Now back on the growing trend, what has been the answer, you guessed it, we are heading back to where we started seven years ago.

If you are interested in drags and are working with limited space here is a system used by a successful group: CARS . . . in the range of 1/32 scale.

they must look like real drag cars, the electric motor may not be exposed, and the car must carry either a plastic motor or a full hood. Tire dia. is limited to 1", 1/4" wide on stocks and up to 3/8" wide on dragsters. Rather than pages of written rules a member's looks at a rules stretcher pulls them back in line. TRACK . . . to fit home use and allow smaller hobby shops to compete, tracks are smaller, 1/8th mile or 1/3rd of 1/4th scale mile drags are run. It is more exciting to have lots of close drags at a slower speed on a shorter course than runaways on long course. CONTROL . . . There is a trick to helping the underdog in drags. Rather than run high voltages, run *all* classes on 12 volts. One step further and this is important: limit amperage, this helps eliminate the ones that rewind armatures from dominating. Once everyone finds it is better to run with a group for fun than to run alone for victory at any cost, then electric drags will really start to grow.

With limited amps, suggest 1 1/2, they must be independently supplied to each lane so one car can not rob another.

1/24TH SCALE . . . On the average this is a strange breed of racers. Everything is classified as 1/24th scale and yet rules are not set down. In my travels I have never run across a group that runs 1/24 scale that have the established rules and scrutineering set down so strongly as in 1/32 racing. In fact, for the most part, cars are quite to a person's own liking, in many cases resembling nothing in existence. I, like anyone else, read publications on electric racing and find it hard to agree with some writers from observations in my travels. Many state 1/24th the most popular, more powerful, a greater challenge to build, etc. On the average most 1/24 cars have the electric motor hanging out somewhere or sitting on funny angles and are painted very odd colors. I feel the bigger the car the easier to build. To me the real builder is the one working with the least available space and through ingenious ways still manages to go real fast while underpowered. To you true blue 1/24th people, let me quickly state facts in your favor. Those of you building and using a scale size loosely, I am not knocking it as you are having as much fun as anyone else. Some people do not want to get involved with rules, etc., just race for strictly the fun and nothing more. You can't call this wrong. I have seen some clubs running 1/24th cars where control was very close and cars and races looked good. In nearly all of these cases, 1/24th scale was added to their 1/32nd racing and paralleled those rules. Also there are people who have basically two left hands, and smaller scale cars are just too much of a strain or frustration to tackle. If there is a group out there running 1/24th with

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solid rules established, I would like to hear from you. I am sure your rules could be of help to the others who are trying to reach an organized state.

WOOD WHITTLERS STAND BY . . .
This is going to be the wildest Indiana-

polis 500 of all time and unlike the current F-1 trend, cars will look different. I am all for the progress that is in the works and have my wood ready, knife sharpened . . . and those wild 1964 GT cars, this a *goood* year . . .

TRACK of the Month

ANTELOPE VALLEY HOBBY CENTER

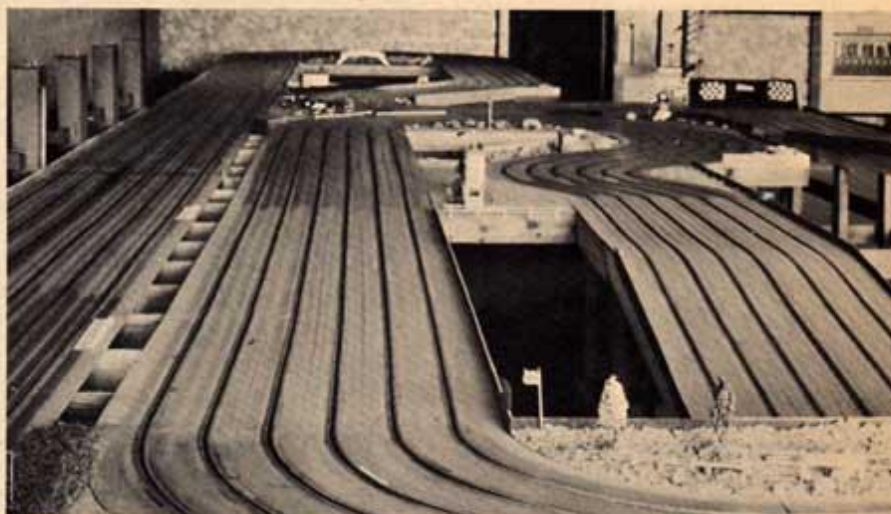
Text and Photographs by Stan Kellogg

FOR YOU SLOT RACING FANS who relish a good, hot track, the place to go is Lancaster, California, the home of "Antelope Valley Hobby Center — Slot Racing Division." This high speed track, located at 45013 N. Yucca Ave., is reputed to be one of the fastest (if not THE fastest) tracks in the country. This is attested to by the fact that Dick Hill, the manager, covered the track in an official time of 12.4 seconds, or a scale speed of about 350 MPH.

This miniature speedway opened for business in April of 1963 and was designed by Dick Hill who also built it with the aid of two volunteers, Bob Thomas and Larry Troy, also "table top" racing fans. It took three months to build the layout and one unique feature is that its sections are bolted together, thus making it comparatively easy to disassemble the whole thing for moving, should that ever be necessary. Overall length of the track is approximately 200 feet and the straightaway is considerably longer than most tracks of this type, being fifty feet long. Also included in the track are six 180 degree turns, one "S" turn, and one over-and-under. In this well planned layout there are six lanes, each with its separate power-pack furnishing eighteen volts of regulated power and accommodating three types of scale models — 1/24, 1/25, and 1/32. The presence of a Chrondek timer as well as a lap counter add much to the efficiency and enjoyment of this course. Another fine feature of this race course is that there is a perfect view of the entire track from any position.

Quite a large number of "slot racing" buffs drive many miles to run their cars on this fine course, some from as far as the Los Angeles area plus other parts of the Mojave Desert, of which Lancaster is the largest town. The many photographs of racing cars, hot rods, and well known race drivers decorating the walls tend to add a sporty atmosphere. Adjacent to the track is a hobby shop, complete with a large assortment of replacements and accessories for the pint

size cars. The track's manager, young Mr. Hill, is also available to make repairs should anyone require his services. The track is open on Saturday and Sunday afternoons as well as every night of the week and is well worth at least one visit from out of town enthusiasts even if it entails a somewhat long drive to try a fast round on this hot track.



The fifty-foot straightaway is shown in this partial view of the Antelope Valley track. Lots of curves and long straights are always popular.



Hobby Center's owner, Dick Hill, takes a moment to do a little pit-stopping. All popular kits and accessories are available to enthusiasts.

SPEED SPEED SPEED



Is that all we think about? No...not all! When we designed Revell's scale model racing cars, the Jaguar GT and Corvette Sting Ray GT in $\frac{1}{32}$ scale and the Lotus XXV GP and BRM GP in $\frac{1}{25}$ scale, we thought about



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And all you have to do is look at these Revell model racing cars to know they're unmatched for authentic appearance.

But don't forget...the *speed* is there, too!

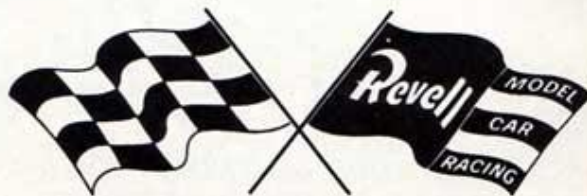
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